

American Vegetable Grower

JANUARY • 1957

What's in a Seed?

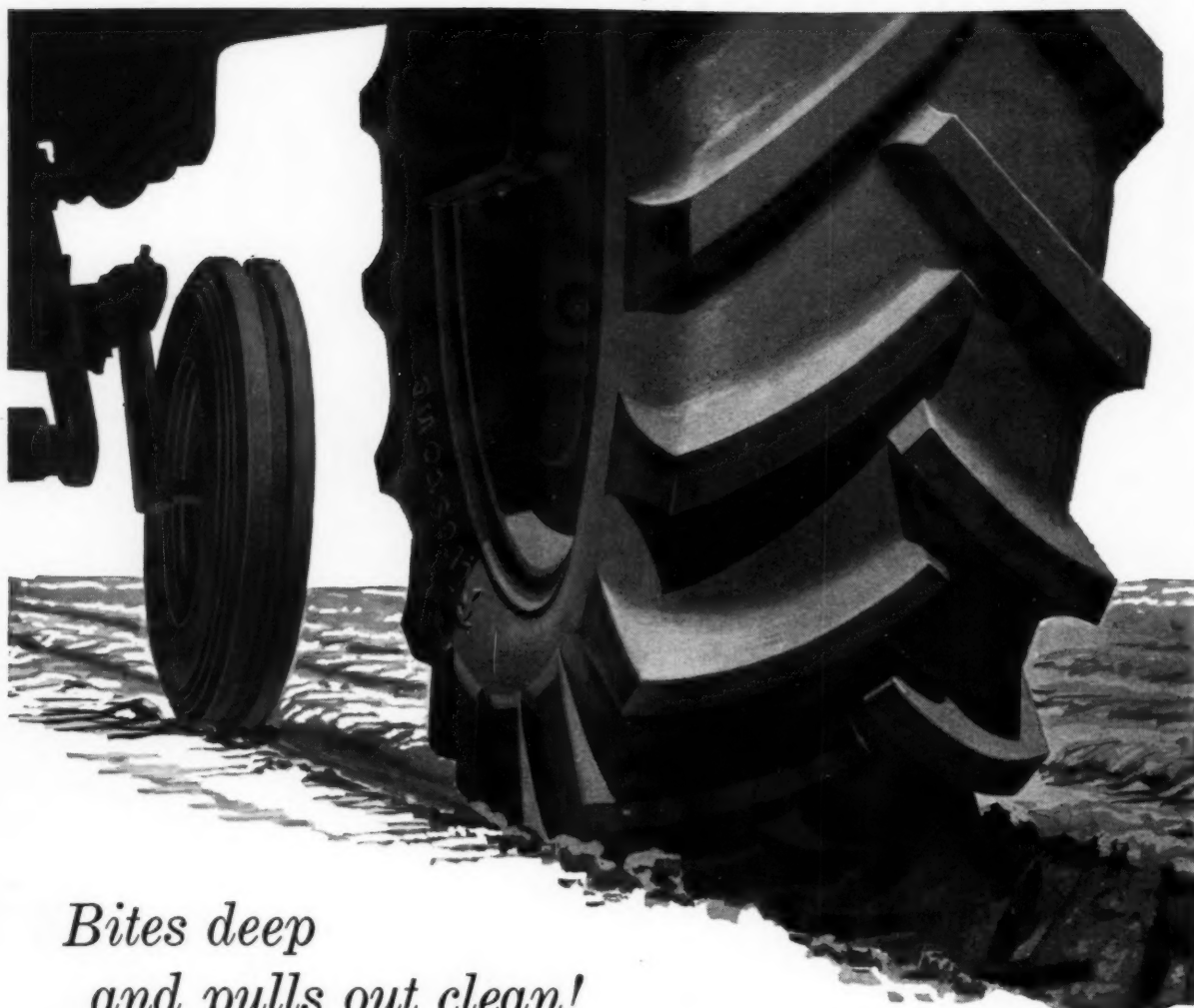
Plan Now — Avoid Crop
Losses Next Summer

Seedless Watermelons

New Wax Cuts
Cucumber Losses



New Varieties for 1957



*Bites deep
and pulls out clean!*

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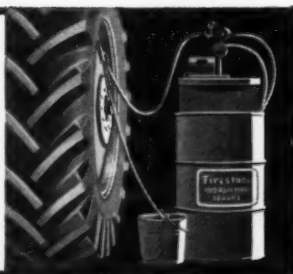
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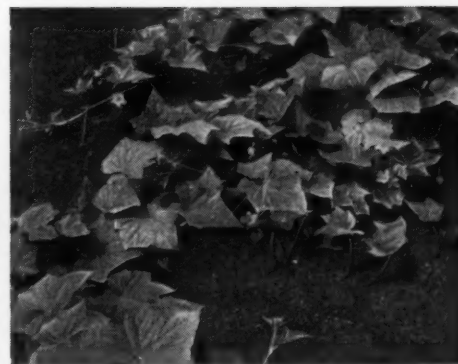
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Your Firestone Farm Service Specialist . . . right at your front door with money-saving advice and maintenance service—Hydro-Flation for your tractor tires, free inflation and inspection of all your tires. Call him at your Firestone Dealer or Store.





Tomato plants suffering from a magnesium deficiency show yellow areas between dark green veins, starting with lower, older leaves. Withering and dying of leaves increases as fruiting develops.



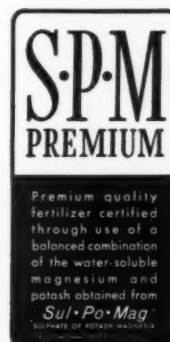
Cucumbers: Edges of leaves turn white, then change to brown, but the veins remain dark green.



Beans: Lack of magnesium is shown by characteristic yellowing between the veins together with mottling and browning of older leaves.

Your vegetables can tell you...when it's **TOO LATE FOR TOP-PROFITS!**

Any of your vegetables can tell you when they suffer from an extreme shortage of available magnesium, but don't wait for obvious signs because in some areas magnesium deficiencies are reported on 90% of vegetable farms. Magnesium is a major plant food for vegetables, and the easiest and most effective way to supply magnesium is to use an SPM Premium type complete fertilizer containing Sul-Po-Mag®. SPM fertilizers also contain premium quality Sulphate of Potash obtained from Sul-Po-Mag which reduces the danger of chloride toxicity. Sulphate of Potash in SPM fertilizers helps grow vegetables of earlier, more uniform maturity—rich in color, and of higher quality. Your vegetables get both water-soluble magnesium and sulphate of potash when you apply an SPM Premium type complete fertilizer containing Sul-Po-Mag.



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Water-Soluble Double Sulphate of Potash-Magnesia
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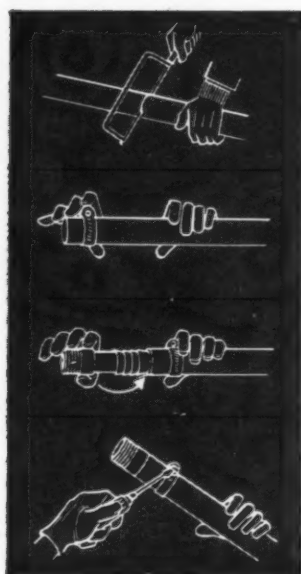
potash division

INTERNATIONAL MINERALS & CHEMICAL CORPORATION
20 NORTH WACKER DRIVE • CHICAGO, ILLINOIS

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JANUARY, 1957

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3. Insert fitting into pipe up to the shoulder. No sealing compound is necessary.

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You can carry lightweight NATIONAL Polyethylene Plastic Pipe anywhere, unroll it like hose, connect it to your feeder pipe, and have irrigation where you want it, when you want it. It's quick.

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Only 100% virgin "on grade" polyethylene material is used in the manufacture of NATIONAL Polyethylene Plastic Pipe. It is available in sizes from 1/2-inch to six inches in diameter, in a variety of wall thicknesses and in lengths up to 400 feet long. For full information, write to National Tube Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania. Ask for Bulletin No. 29.

*Trade Mark



NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



NATIONAL plastic PIPE

UNITED STATES STEEL

AMERICAN

VEGETABLE GROWER

REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 5 January, 1957 No. 1

FEATURED IN THIS ISSUE

The lad on the cover, with his arms full of green onions, was spotted by photographer Lewis P. Watson in a North Carolina farmers' market. Bet his dad started with good seed! See pages 10-14 for our annual presentation of the year's new varieties.

What's in a Seed?	9
By B. M. Kubik	
New Varieties for 1957	10
Business Is Good	16
By R. T. Meister	
Make Plans Now to Prevent Crop Losses	20
Next Summer	20
By J. Mitchell Jenkins	
Seedless Watermelons	22
By F. E. Johnstone, Jr.	
Setting Stakes Mechanically	27
New Wax Cuts Losses	28
By Fred Heiligman	
Blue Hubbards	30
By Charles L. Stratton	
He Lowers the Boom	35
By Keneth Jack	

DEPARTMENTS

Letters to the Editor	6
State News	18
Know Your Vegetable Seeds	24
Calendar of Coming Meetings and Exhibits	25
Answering Your Questions	26
Editorials	38

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RICHARD T. MEISTER, Editor
Editorial Staff

E. K. GOULD, Managing Editor
H. B. TUKEY
R. L. CAROLUS

ELDON S. BANTA
M. P. RASMUSSEN
B. M. KUBIK
GEORGE M. ROSS, Art Director
J. S. BENDER, Production Manager
EDWARD L. MEISTER, Director of Advertising

District Advertising Offices

NEW YORK, W. J. Martin and Company, 880 Fifth Ave. Phone—Plaza 7-6464
NEW JERSEY, W. J. Martin and Company, 390 Terhune Ave., Paramus. Phone—Coffax 2-4284
CHICAGO, Peck and Billingsley, Inc., 186 N. Wabash. Phone—Dearborn 2-8272
SAN FRANCISCO, McDonald-Thompson, 425 Market St. Phone—Yukon 4-0647
LOS ANGELES, McDonald-Thompson, 3727 West 6th St. Phone—Dunkirk 7-5391
SEATTLE, McDonald-Thompson, 1808 Western Ave. Phone—Elliot 3767
HOUSTON, McDonald-Thompson, 3217 Montrose Blvd. Phone—Jackson 9-4711
DENVER, McDonald-Thompson, 222 Colorado National Bank Bldg. Phone—Keystone 4-4449



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AMERICAN VEGETABLE GROWER

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.....	9
.....	10
.....	16
.....	20
.....	20
.....	22
.....	27
.....	28
.....	30
.....	35

.....	6
.....	18
.....	24
.....	25
.....	26
.....	38

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GETABLE GROWER

Your sweet corn family from NK

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GOLDEN MONARCH—A high tonnage per acre—excellent in markets demanding large, substantial ears. Golden Cross type—84 days*—14-16 row ears, deep kernels. Developed by Northrup King.

Order today from your Northrup King dealer

*Average Maturity at Minneapolis.

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ROCKET

GOLDEN
BEAUTY

GOLDEN
MONARCH

MORNING
SUN

SUGAR
KING

EARLIEST
MARKET KING

NORTHROP, KING & CO.

MINNEAPOLIS
13,
MINNESOTA

JANUARY, 1957

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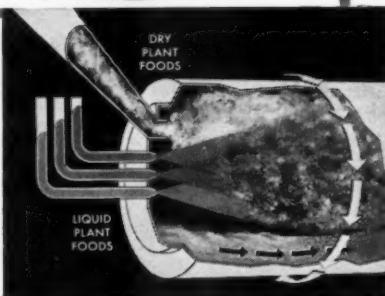
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High-quality liquid plant foods are injected into dry materials in a revolving FLO-FUSION processing chamber at Swift's Plants. Millions of individual chemical reactions convert raw materials into chemically-hitched plant food, drying the particles as they are formed. You get the benefit of this FLO-FUSION process only at Swift Plants throughout the nation.



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102ND YEAR

PLANT FOOD DIVISION • CHICAGO 9, ILLINOIS

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LETTERS TO THE EDITOR

Raises Hale's Best Jumbo

Dear Editor:

We raise about 25 acres a year of just one variety of cantaloupe, Hale's Best Jumbo. The cantaloupes in the picture are being unloaded from my truck onto the platform over the cab of the larger truck at the Rush Springs, Okla., watermelon and cantaloupe market. Rush Springs is supposed to be the watermelon capital of the world.



We raised about 125 bushels of Hale's Best Jumbo per acre in 1956 and I sold them for \$2.00 a bushel down to 75 cents a bushel. I am about the only one who likes the Jumbo cantaloupe here; other growers say they are too big, but I have good luck with them.

Rush Springs, Okla.

Olie J. Hale

Sweet Corn Grower Writes

Dear Editor:

Thank you for the flattering article on sweet corn production. Don't know if we can live up to all those nice things you said.

Would it be possible to get two or three copies of the article?

Harrison, Ohio

Tom Pottenger

We are sending Reader Pottenger three extra copies of the article, "How the Pottengers Grow Quality Sweet Corn," by Eldon Banta, which appeared in our October issue.—Ed.

Wants Bay State Squash

Dear Editor:

Thanks for your effort to find Bay State squash. (All we could find for our reader was a similar variety, Warren Turban.—Ed.) I keep in contact with seed growers all over the U. S. and knew it was not now grown by them. Perhaps a request in AMERICAN VEGETABLE GROWER might locate a gardener in New England who has Bay State squash.

I would like the seed for use in breeding work since the Bay State seed we have is no longer viable. My long study of cucurbits covers 3000 kinds from world-wide sources, 900 of them are *Cucurbitas*.

Geary, Okla. M. Hardin, Horticulturist

Any grower-reader who has seed of the Bay State squash, please write Mr. Hardin at the above address.—Ed.

Praise from Down Under

Dear Editor:

My congratulations on your magazine, which I came on by accident and admired very much.

Victoria, Australia.

John R. Blakeman

AMERICAN VEGETABLE GROWER

ERS EDITOR

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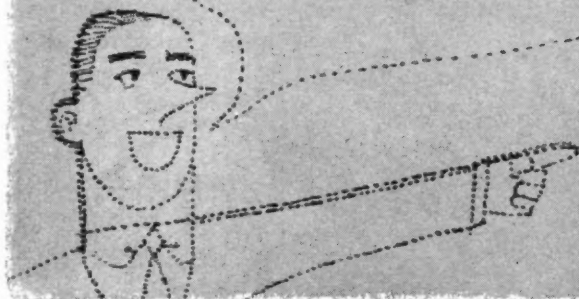
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John R. Blakeman
VEGETABLE GROWER

**"JEEPERS!
BY THE
DOZEN?"**



**"RIGHT! YOU SELL 12 PLANTS EVERY TIME
WITH BIRD GRO-TAINER FLATS!"**

Lightweight, inexpensive, Bird Gro-Tainer flats make it easier to sell 12 plants — every time! You'll sell *better* plants, too, because you avoid the necessity of cutting individual plants from large flats, with consequent root damage.

Molded from hard, durable fibre, the Bird Gro-Tainer is both a growing container and retail display. It is finished in an attractive green color that blends harmoniously

with plant foliage. The Gro-Tainer is designed with a sturdy flange around the outside edge to provide greater strength and permit easy handling. Twelve holes in the bottom allow for sufficient drainage.

Gro-Tainer is priced at only \$58 per thousand (list). Sold only in units of 200, each case of 200 weighs 28 pounds. Order from your distributor or send coupon for complete information.

GET THE WHOLE FLOCK OF BIRDS



VITA-BANDS:

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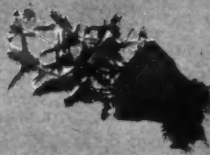
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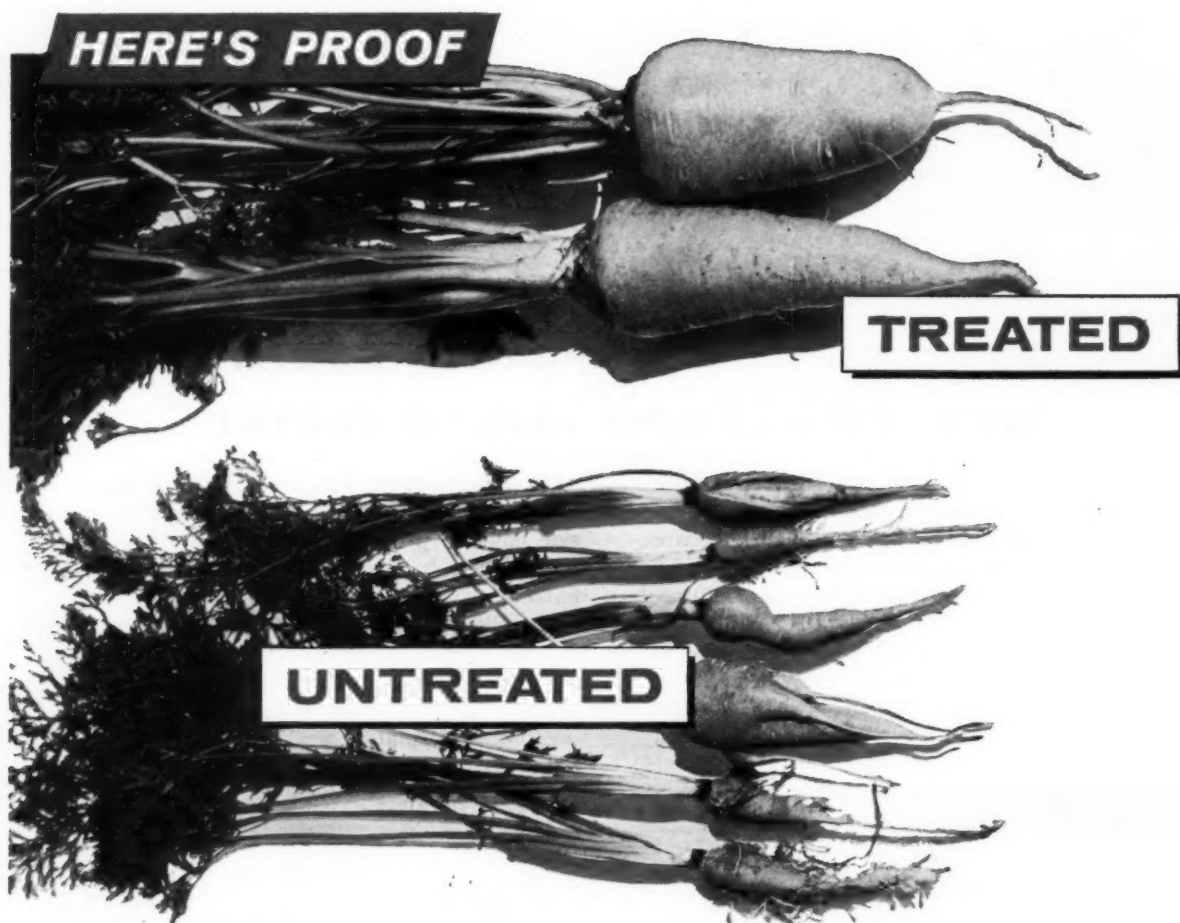
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D-D[®] kills nematodes

SOIL FUMIGANT

... for bigger and better quality yields



The proof is in the harvest! Without effective control, nematodes destroy vital root systems. Plants become stunted, greatly reducing the size and quality of yields. That's why more growers are protecting their vegetable crops with powerful D-D soil fumigant.

D-D soil fumigant is an easy-to-use liquid. Injected into the soil with inexpensive tractor attachment or gravity-flow plow equipment, it becomes a potent gas, killing nematodes as it spreads. And it's economical, too. One pre-planting treatment per season is all

you need for effective control.

This season get your crops off to a good healthy start. Before you plant, use D-D soil fumigant. See your local pesticide dealer. He'll be glad to give you latest information on D-D soil fumigant and its application.

SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICAL SALES DIVISION

460 PARK AVENUE, NEW YORK 22, NEW YORK



What's In A SEED?

**Asgrow's 100th anniversary
brings out important facts
on the value of good seed**

By B. M. KUBIK

TO the grower, seed is the necessary starting point to a fine crop of spinach, carrots, peas, onions, or whatever his favorite crop happens to be.

To the professional seedsman, a bag of seed represents living embryos. As A. Bryan Clark, president of Associated Seed Growers, Inc., puts it, "The essence of every seed is the embryo of the new plant which it holds. In our business we sell embryos by the millions."

Having just completed its 100th year in the seed business, Asgrow is truly a leader in the business of selling embryos. Starting with a half-acre cabbage patch in Orange, Conn., it has grown into a multi-million dollar industry, and is the largest breeder and grower of vegetable seed in the world. More than 200 new varieties have been developed and introduced by Asgrow in those 100 years—more than a third of them in the last 10 years alone.

A big aid in breeding new and better varieties is their Germ Plasm Bank. Here are kept on deposit, carefully cataloged, many thousands of blood lines of live germ plasm. Although Asgrow is currently selling some 25 or 30 varieties of peas, the Germ Plasm Bank contains over 1000 separate specimens of peas. Comments Clark, "Heredity is our stock in trade."

Many growers regard seed as simply seed, and one bag of seed as being essentially the same as another carrying the same variety label. This is far from the case. Good seed requires meticulous concern with the intricacies of genetics, plant pathology and physiology, and the growing and processing of the seed. In the total cost of growing a crop the cost of seed is such a

small fraction that it pays to buy only the best seed available.

A 20-pound bag of seed, for example, selling for \$32, will plant about 13 acres. It contains some 8 million live seeds. With good growing conditions and good commercial practice it will produce about 10 freight carloads of cellophane-packed carrots.

These 10 carloads may bring about \$14,000 to the grower. Thus a \$32 investment in a bag of seed returns many times its cost. Yet the yield and quality of the crop are inescapably dependent on the invisible units of heredity which lie latent within the seed.

Meticulous care is taken to maintain the mother planting stocks in a state of genetic purity. This is vital because modern vegetables have been bred up to high levels of

specialization. If left to themselves, they would quickly revert to inferior forms—carrots would become Queen Anne's Lace, for example.

But even the best of varieties and strains are of little value to the grower unless the seed itself is capable of sprouting and growing into a healthy plant. This is where the millions of embryos come into the picture. Will they germinate with enough vigor to continue growing, even under rugged field conditions? What factors affect the vigor latent in such seed? How can these factors be controlled so as to maintain the optimum level of vigor in the seed which the grower buys at his seed store?

To find answers to these and similar questions, Asgrow scientists and technicians spent several years in

(Continued on page 37)



Calvin N. Keeney, the man who bred the strings out of string beans, photographed while inspecting a bean seed crop fifty years ago. Keeney headed N. B. Keeney & Son, one of the three original Asgrow seed companies.



A 20-pound bag of good carrot seed will produce about 10 carloads of bagged carrots.

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ETABLE GROWER

JANUARY, 1957

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NEW VARIETIES for 1957

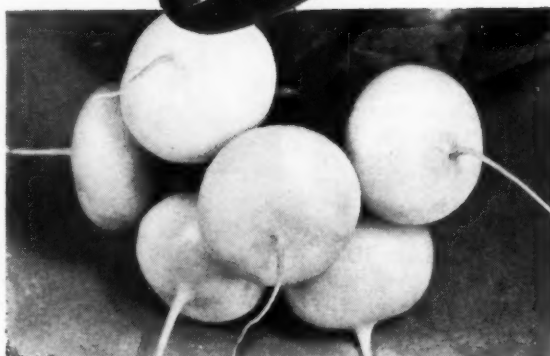
OF CELERY . . . SQUASH . . . RADISH . . . CANTALOUPE . . . LETTUCE

JANUARY may be the middle of winter to some people, but to the grower January means "time to think about ordering seed."

If you're wondering what's new in the seed catalogs, take a glimpse at the new varieties for 1957 pictured here. Notice how they have been tailor-made to the most exacting specifications. Whatever you want in a variety, there's almost sure to be one that fits the bill!

Because seed of new varieties is often in short supply, we suggest that you write the seedhouses early for specific information on their varieties. Here are their addresses:

Associated Seed Growers, Inc., 205 Church St., New Haven 2, Conn.; W. Atlee Burpee Co., Philadelphia 32, Pa.; Corneli Seed Co., 101 Chouteau Ave., St. Louis 2, Mo.; Ferry-Morse Seed Co., P. O. Box 778, Detroit 31, Mich.; Germain's, 6400 E. Washington Blvd., Los Angeles 22, Calif.; Glecklers Seedmen, Metamora, Ohio; Joseph Harris Company, Inc., Moreton Farm, Rochester 11, N.Y.; The Holmes Seed Co., 1017 Ninth St. S.W., Canton, Ohio; Northrup, King & Co., Minneapolis 13, Minn.; Robson Quality Seeds, Inc., Hall, N.Y.; Otis S. Twilley, Salisbury, Md., and F. H. Woodruff & Sons, Milford, Conn.



Burpee's Hybrid Zucchini Squash (top, above) is an F₁ hybrid maturing in 50 days. Medium-sized plants produce shiny, medium-green, cylindrical fruits. At best eating stage when fruits are 6 to 8 inches long.

Burpee White Radish (above) is mild and tender, with pure white skin and flesh. Roots are nearly round when young, flatten as they grow. At best eating stage— $\frac{3}{4}$ to 1 inch across. Matures in 25 days.



Joseph Harris' new Glamour Tomato is a main-crop variety with real crack resistance, well-adapted in New York and similar areas. Clean shoulders and smooth shape make it ideal for both marketing and canning. Fruits are large, slightly flattened, firm, meaty, and mild in flavor. A good yielder, it matures about with Longred. Developed by W. D. Enzie of Birds Eye Foods, Hort Research Laboratories.



Green Light Celery is Joseph Harris' new strain of Utah or Pascal celery. It has given excellent results for late summer and fall crops in eastern and north central states. Quality is very high, with thick, crisp, firm stalks. It has compact plants with numerous thick stems and good length to the first joint. The erect habit of growth permits handling and packing with a minimum of breakage. Very free of brown check, chlorosis, and pithiness. Subject to bolting if planted early, but rated "best yet" by several expert growers who tested it.

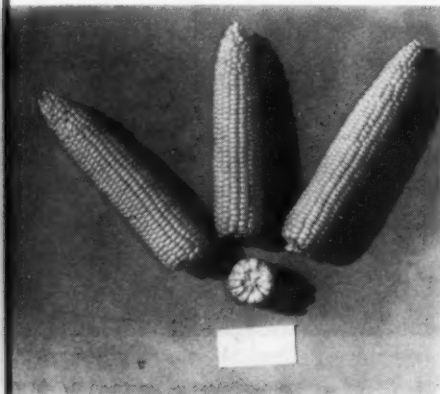
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Greencrop bean, an All-America Bronze Medal winner developed by Dr. A. F. Yeager at the University of New Hampshire, is offered by Northrup, King. The plant is erect, dark green, and vigorous. Pods are long, flat, tender, and of good quality, with white seeds. A good variety for market or processing and ideal for the home garden. Supply of seed is limited.

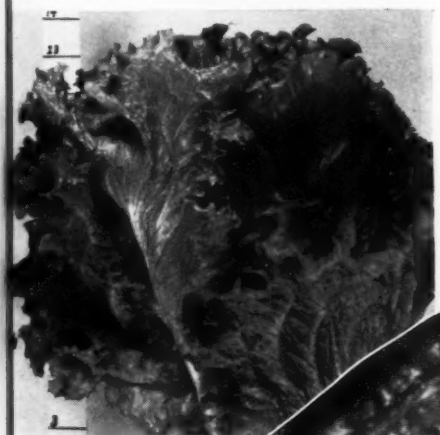


Developed by Northrup, King, Pearlgreen bean is a very productive, white-seeded variety in the Tendergreen class. It has an upright vigorous plant which has shown good spring vigor. Pods are 6 inches long, round, fleshy, medium green, straight, of fine eating quality. Not released.



Left — Sugar King is Northrup, King's large-eared yellow hybrid sweet corn maturing in Carmelcross season (78 days). Sweetness is outstanding, and pericarp is very tender. Attractive, cylindrical ears have 14 to 16 rows. Kernels are bright, narrow, and deep, giving good recovery for processing. Plants are vigorous and productive, with good husk color and attractive flag leaves for market.

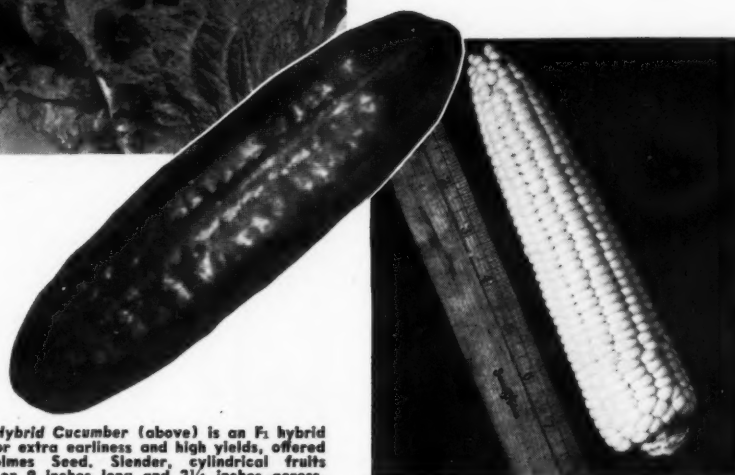
Right—Otis Twilley offers Wilt Resistant (Fusarium) Queen of Colorado cantaloupe. It matures in season with the original strain, but vigorous vines withstand wet weather better. Thick flesh and excellent quality. Very coarse, heavy net; fine appearance for marketing.



New at Holmes Seed Co. is Grand Rapids Resistant T5-4 Leaf Lettuce (left). Plants are heavier and more frilled than the original, with better appearance, more uniformity.



Improved Yalo Wonder pepper, offered by Otis Twilley, has thicker walls and blockier shape than the original strain. It is less likely to sunburn, as fruits are pendant and protected by foliage. Mostly four-lobed fruit. Yields are equal to the best stocks of the original.



Early Hybrid Cucumber (above) is an F₁ hybrid bred for extra earliness and high yields, offered by Holmes Seed. Slender, cylindrical fruits are 8 or 9 inches long and 2 1/4 inches across, with very dark green color and fine, uniform shape. Resistant to downy mildew and mosaic.



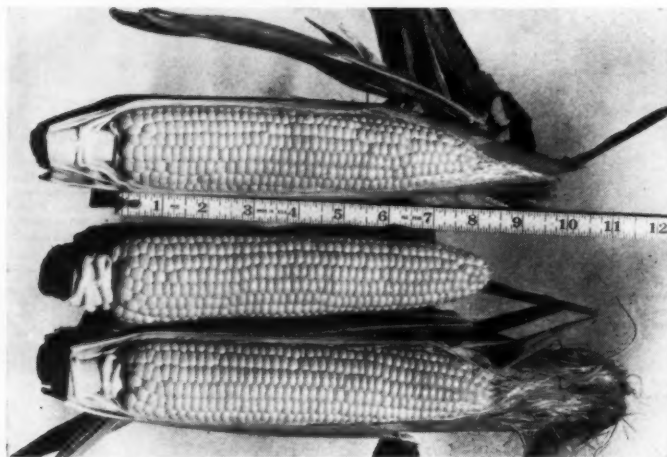
Holmes Early Giant Hybrid is a large, early-fruited tomato with heavy yields. Fruit has a deep globe shape and deep red color. Vines are strong and vigorous, with good coverage.

A new early sweet corn in the first early class, Earliest Hybrid (left) is offered by Holmes. A high-yielding variety with vigorous growth, bright yellow color, and excellent eating quality. Ears are 8 inches long and have 12 rows. Plants show good resistance to wilt.

or Pascal celery.
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firm stalks. It has
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Subject to bolting
wers who tested it.

NEW VARIETIES

OF SWEET CORN . . . CUCUMBER . . . PEPPER . . . GREEN BEANS



Prosperity X2 is a new, very vigorous, late-season corn introduced by Cornell. Long, slender, cylindrical ears have 14 to 18 rows of deep, narrow kernels and excellent husk coverage. Predominantly two-eared. Very good yield for a slender-eared, high-quality corn. Distinct improvement over original Prosperity.



Robson Seeds' Seneca Warpath is a full-season hybrid sweet corn that is high-yielding with a high percentage of marketable ears. Dark green husks and attractive flag or streamer leaves give eye appeal. Plants grow 7 to 8 feet tall with strong, erect stalks having few suckers. Ears are 7 1/2 inches long, with 14 to 16 rows of small, narrow, fine-grained kernels well-filled to the tips. Potentially a double-eared hybrid, it is uniform in size and length when grown under high fertility or wide spacing; both ears mature together.

Cornell's new Superchief sweet corn (above right) was developed for growers now using lochief. It is similar in appearance, but with much better flavor and easier snap.

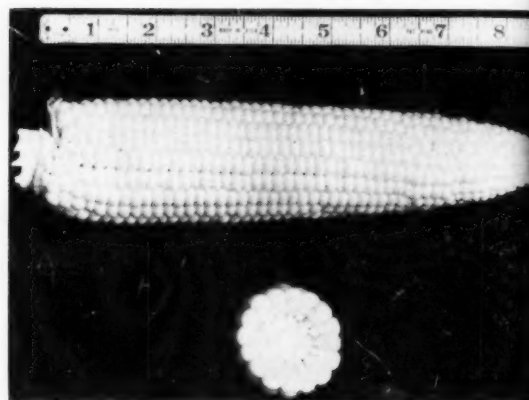


Cornell's new white-seeded, mosaic-resistant bean, Cornell 14, was outstanding in trials this past season. Heavy production, concentrated set, and dark green, long, slender pods of very high quality distinguish it. Seed is slow to develop and small at maturity. Pods are carried high and are well-distributed over the bush, making it ideal for mechanical harvesting. Growers in Germany, where several kinds of bacterial blight are common, found it highly tolerant to blight.

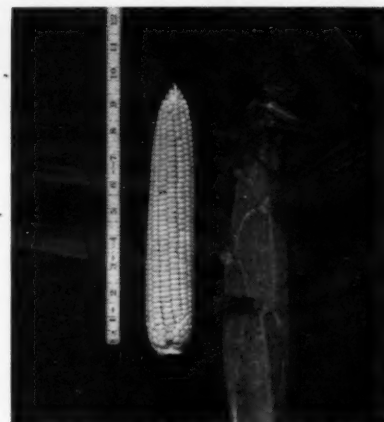
Very high yields and Golden Bantam quality are combined in Cornell's new KVF 54-65 sweet corn (right). A large-eared, 14-row variety of lochief maturity with very good vigor. Wilt and Helminthosporium-resistant.



Homestead 24 tomato is an Asgrow selection made from the original Homestead. The plants are highly resistant to fusarium wilt and are uniform for their medium-large, determinate vine type. Fruits are more nearly uniform for full globe shape and dark green shoulder color at the mature-green stage, an important factor for growers who pick for the green-wrap market. It produces well whether staked or grown on the ground.



Cornell's new Urbana outyielded all other tomatoes three years in succession at the STEP trials of the Southern Experiment Stations. Slightly smaller than Rutgers, with medium-sized, globe-shaped fruit. Compact, bushy vine permits close spacing. Fruit has rich scarlet color inside and out. It has a high percentage of marketable solids, and stands up well under difficult picking and shipping conditions. The use of early nitrogen and close spacing are recommended.



AMERICAN VEGETABLE GROWER



an Asgrow selection
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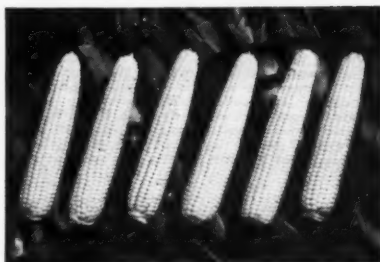
Black Beauty bush squash is an All-America Bronze Medal winner for 1957, developed at the University of Connecticut and offered by Asgrow. A green summer squash of Zucchini type, it produces blocky-shaped fruits with attractively glossy, dark green color. Plants are somewhat earlier than standard green squashes.



Pascal 259-19 celery is a new Ferry-Morse selection slightly taller than Summer Pascal, with darker leaves. Vigorous, compact plants produce uniformly large sizes. Ribs are 9 to 10 inches long, smooth, and rounded. Color is attractive and bright, quality is excellent. The new variety matures in about 120 days.



Asgrow Golden 22 sweet corn is a high-yielding, large-eared, good-flavored hybrid in Caramelcrass season. The plants are vigorous, highly resistant to bacterial wilt, and produce well even on rocky soil. Ears are thick at the butt and slightly tapered, filling the bag or crate well and giving an unusually attractive appearance for an early corn variety.



The new Asgrow hybrid sweet corn, **Sixtypak**, may be the heaviest-yielding midseason variety yet introduced, averaging almost two marketable ears per stalk in trials in the Midwest, Northeast, and Florida. Plants are vigorous and highly resistant to bacterial wilt. The ears, borne well up on the stalk, are exceptionally uniform for size and trim appearance, and are uniformly well-filled to the tip. It is particularly suited for growers who ship in crates.

Golden Emblem (right) is Ferry-Morse's second-early market and canning hybrid sweet corn for West Coast and Northwest. Matures in 78 days. Plants are about 6 feet tall. Ears are in good position for picking, 7 to 8 inches long, with 12 to 14 rows. Kernels are of medium depth, and quality is excellent. It received the Award of Merit in Royal Horticultural Society trials.



Gold Crest is a first early-market hybrid from Ferry-Morse. It matures in 67 days at Rochester, Mich., and shows good tolerance to bacterial wilt. Ears are 7½ to 8 inches long, and mostly 12-rowed, with good tip and husk cover. Kernel color and flavor are good. Best for northern and middle states and Northwest.



Yolo Wonder A is an Asgrow selection made from the original Yolo Wonder, which it resembles for small, compact, heavy-folliaged plant type, pendent fruiting habit, and high tolerance to tobacco mosaic. The peppers, however, are blockier in shape, with a considerably higher percentage of four-lobed fruits than the original.



Ferry-Morse's Garden Gold (below) is an early hybrid sweet corn for the West and Northwest. Plants are 6 feet tall with dark green husks. Flag leaves have good length. Ears are 7 to 8 inches long, and 12- to 14-rowed. It received the Award of Merit in Royal Horticultural Society trials, and matures in only 72 days.

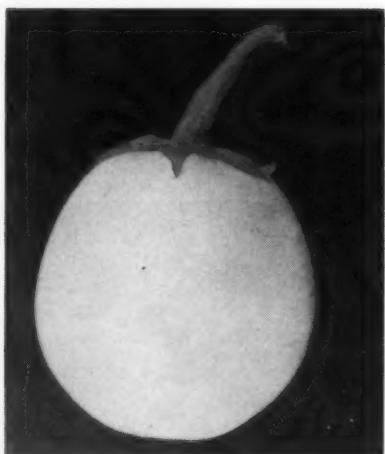


NEW VARIETIES

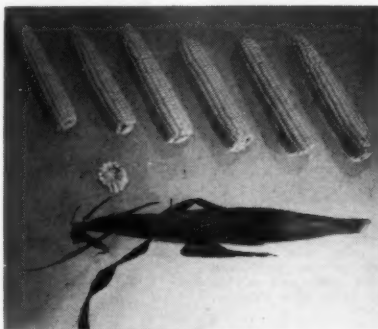
OF TOMATO . . . EGGPLANT . . . AND ONION



Laketa is a new paste-type tomato having the extreme firm solids. Introduced by Glecklers, it has the firm feel of a lemon and is characteristically pointed. Fruit has pinkish-purple skin when ripe and blood-red flesh. This is a superior strain for fortifying soup stocks with greater solids content and better color.



White Beauty is an eggplant of extraordinary quality being introduced by Glecklers. Vigorous, upright plants grow 4 feet tall. Glistening white fruits weigh up to 4 pounds each, and do not have the bitter flavor of most eggplant.



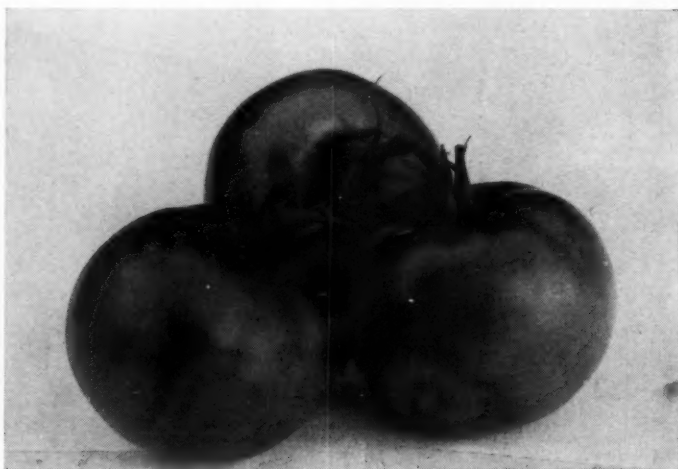
Victory Golden hybrid sweet corn (MG strain), designed especially for the market gardener, is offered by Woodruff. It matures in about the same season as Golden Cross Bantam. Ears are 8½ inches long and have 16 to 18 rows. It is slightly longer and larger than the processing strain. Kernels are uniform golden yellow and the quality is excellent. The ears are well-protected from ear worm damage by a heavy husk which extends well beyond the tip of the ear. Plants grow 7 to 7½ feet tall, with few suckers and strong root systems. Yields are outstanding.



Woodruff's Hyscore is an excellent round-podded green bean with white seeds, well-adapted for shipping or processing. Attractive pods are 6 to 6½ inches long and ¾ inch wide, straight, smooth, and dark green. Maturity is about 58 days. The plant is vigorous with a strong, sturdy stem and is very erect in habit, with a concentrated set of pods borne high on the bush, thus escaping soil-staining and pod-rot.



New at Woodruff is Epoch hybrid onion, released by the USDA and the Iowa Experiment Station. Designed primarily for storage, Wisconsin tests show that it stores well until March. It is very firm, attractive, uniformly medium-large, deep globe-shaped, with well-rounded shoulders and base. Golden brown in color, it has a small neck and good skin which adheres well during storage. It is an F₁ hybrid.



Tomato Pearson B, offered by Germain's, is an early Pearson, 10 to 14 days earlier than Pearson Improved. It maintains uniform large fruit size throughout the season and gives a heavy first canner pick—up to 26 tons per acre. High in solids, it is equal to Ace which is reported tops in the West for solids. It is the first Pearson strain to be Verticillium wilt-resistant. There is less care, yet fruits are solid, heavy, meaty, and firm—up to 16% heavier than Pearson B. Improved. Truckers hauling full weight loads haul 80% fewer lugs of Pearson B.

AMERICAN VEGETABLE GROWER

MAIL COUPON
TODAY

for BIGGER and BETTER CROPS



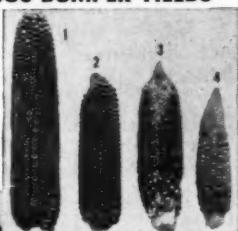
TESTED FERTILE SOIL BRINGS BUMPER YIELDS

Far sighted farm leaders, agricultural colleges, experiment stations, and other soil scientists have conducted thousands of field trials that prove the amazing benefits of correct soil fertility. To produce the healthiest highest yielding crops, phosphate, potash and nitrogen must be supplied in proper balance. Too little or too much may cause weak, stunted plants and poor yields.

Beans—The vigorous healthy soybean plant at left produced heavy yield, more nitrogen nodules. Poor soil fertility caused stunted plant at right, low yield, little soil improvement.

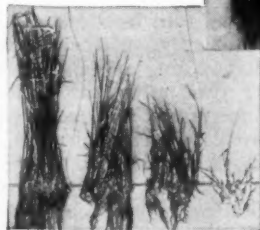


Corn Ear 1 was grown in balanced soil. Nubbins 2, 3 and 4 were from soil that lacked nitrogen, phosphate or potash.



10-Fold Increase in Wheat

These wheat tests show yields increased 10 times with proper fertilizer. Note vigorous root system, lush heavy top growth at left. Where not enough potash was used, yield dropped 8 bu.; insufficient phosphate cut yield 19 bu. per acre.



Fertilized Needed Lacked No
Correctly Potash Phosphate Fertilizer

Now You Can DO IT YOURSELF

450,000 Users Grow Bigger Crops

R.D.C., Penna.—"10,000 tomato, pepper and vegetable plants turned yellow and grew only 4 in. high. With my Soil Test Kit, I found soil deficient in nitrogen—now I have wonderful plants."

C.R.D., Penna.—"Just bought land adjoining our farm and tests will save us many times the cost of Kit. We felt it would need lots of lime but it didn't, so will spend our money on needed phosphorus and potash."

A.F.B., Iowa, increased his bean yield 60% by correcting phosphate and potash deficiencies his Sudbury Kit revealed.

W.L.D., Penna., saved \$400 on fertilizer. "The Kit has paid for itself over and over again." That's real satisfaction!

A.D., Indiana, nearly doubled his corn yields after testing his soil. He also gets 30% more wheat and soybeans per acre.

C.L.B., Mich., says "With our Sudbury Soil Test Kit we quickly found a lack of potash in our orchards."



Hardware, Seed, Grain, Fertilizer Other Farm Stores—Supply This Essential Aid to Better Farming

SUDBURY LABORATORY, Box 82F, South Sudbury, Mass.

World's Largest Makers of Soil Test Kits!

Make More Money in 1957!

TEST YOUR SOIL

Get Top Quality • Faster Growth • Earlier Harvest
More Bushels or Tons to the Acre
More Fancy Grade • Highest Prices • Quickest Sales

You'll have bigger crops at lower cost. You can't afford to guess—when poor growth shows you don't have the right fertilizer it's too late! But you can test your soil before you plant and know just how much fertilizer to use, for the biggest crops.

Yearly tests are not enough—your soil is constantly changing—you'll use your Kit all year round. Right away, these easy 10-minute tests tell just how much fertilizer was used up by last year's crops—how much was leached away by heavy rains—how much you need this year.

EXTRA BUSHELS FREE EXTRA TONS

The bigger crops you get by soil testing really cost you nothing. Taxes, labor, seed, machinery costs, all stay the same, but your income goes way up! Every \$1 you spend on fertilizer will bring back up to \$10 or more. Increasing crop yield can actually give you six times as much profit!

Save Up to \$15 an Acre on Fertilizer

Don't waste money on wrong fertilizers, or overdoses of lime. A Pennsylvania farmer "guessed" he had to spend \$700 for lime but tests showed not a single field needed any; some already had too much. He not only saved \$700, he got better crops too!

Easy As Reading A Thermometer

NO KNOWLEDGE OF CHEMISTRY NEEDED—So simple anyone can use it. In only 10 minutes (no samples to mail, no waiting for reports) you'll know just how much *nitrogen*, *phosphate* and *potash* your fertilizer should contain. Also how much lime is needed (pH). All for less than 10c a test!

Farmers deLuxe Soil Test Kit

Complete with everything you need for hundreds of tests. More valuable than all your stock and tools! Heavy duty, lifetime welded steel chest with carrying handle, weighs only 12½ lbs. Easy to follow instructions show needs of 225 different crops. Big value, only \$29.95.

SEND NO MONEY

Order today and we'll mail C.O.D. plus postage. Or send check and we'll pay postage, saving you \$1.91 to \$3.55 in postal charges.

FREE BOOK Valuable book on farm management, "Our Land and Its Care" included free with all cash orders.

Better Crops Guarantee

If you don't get bigger yields this year, send your Kit back this fall and we'll refund your money—that's Sudbury's Daring Guarantee!

FREE TRIAL

Even after 10 days use, you can return the Kit if not delighted.

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Send me the Farmers deLuxe Sudbury Soil Test Kit at the special low price marked below:

☐ Enclosed is \$29.95; send post-paid and include free book, "Our Land and Its Care." ☐ Send C.O.D. only \$29.95 plus postage.

Name

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☐ Send on Easy-Payment Plan—I'll pay mailman \$4.95 plus postage, then 4 monthly payments of \$6.75 each.

10 to 14 days
size throughout
per acre. High
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ETABLE GROWER

JANUARY, 1957

Report from Grand Rapids: **BUSINESS IS GOOD**

New developments in growing and marketing vegetables make for favorable outlook for '57, growers told

By R. T. MEISTER

Editor

THE annual meeting of the Vegetable Growers Association of America, held in Grand Rapids the last week in November, was a great success.

Never has there been such a fine display of equipment and supplies needed in commercial vegetable production. Meetings were well-attended as growers from all over the country showed up to learn about the progress being made in growing and marketing vegetables, greenhouse vegetables, and potatoes.

One of the most interesting talks told about progress with new weed killers. S. K. Ries, of Michigan State University, told growers that there is a new trend in vegetable weed

control. Instead of sprays which control weeds after the crop has emerged, the trend is toward applying herbicides near planting time which control germinating weed seeds throughout the growing season.

He told of a new product, Simazin, made by the Geigy Chemical Co., which will control weeds in sweet corn from the time of planting until harvest. He recommended making it an established practice to try weed killers on a small portion before making general application.

B. H. Kidder, of Michigan State University, told growers that the average cost of irrigation is approximately \$100 an acre, including labor, fuel, and depreciation. This figures out to \$3.50 per acre-inch. However, where wells are used, the cost is raised to \$7.50 per acre-inch. He said that from 300 to 400 hours of operation per year are necessary to justify the use of a diesel engine as pumping power.

He also spoke of the interest in sprinklers to control frost. When 1 pound of water turns to ice, 144 BTU's of heat are given off which is effective in raising plant temperatures.

John Carew, of Michigan State University, said that growers must look at their farms as a business and use business methods. Too many don't know cost figures of producing crops, he said. He recommended that consideration be given to putting employees on an incentive basis, checking with tax lawyers to make sure to get the best break on income taxes, trying newer develop-



VGAA president Paul Ruetenik (left) of Cleveland presents the Vegetable Man of the Year Award to C. L. Fitch, of Ames, Iowa. For many years professor of vegetable crops in the extension service at Iowa State College, Fitch is now secretary of the Iowa State Vegetable Growers Association. He is one of the leaders in the movement to get a completely new and hybrid set of better varieties of potatoes, onions, and carrots. It is part of Fitch's work to get the federal money for this project. Ruetenik was re-elected president along with vice-president H. J. Evans, of Georgetown, N.J. Two new vice-presidents are Walter Pretzer, of Cleveland, in charge of membership service, and Charles Kreuzinger, Sturtevant, Wis., in charge of processing crops. New directors elected are George Pedersen, Perrine, Fla.; Duane Baldwin, Jackson, Mich.; and Howard Risinger, Independence, Mo.

The University of Connecticut won the national vegetable judging contest in which a dozen teams from land-grant colleges and universities competed. This contest was sponsored by the Folding Paper Box Association in co-operation with the VGAA.

ments in vegetable production, such as plastic greenhouses, fumigating a band along the row for nematode control, and special packaging. He recommended that small growers work together to pool their shipments.

With fertilizers, he suggested testing a strip with double the fertilizer application to determine whether or not regular fertilizer application is sufficient. He recommended the use of palletizing and the use of bulk boxes and bulk storage wherever possible and explained that probably more small growers could profitably use lift trucks.

Jack B. Leaver, field representative for Gerber Products Co. of Fremont, Mich., told how his company had virtually converted its operation in handling vegetables to bulk loading, transport, and unloading. Its pioneering work in utilizing large field boxes, which hold up to a ton of some kinds of vegetables, have many advantages and save money by eliminating crates and cutting labor requirements and some freighting expenses, Leaver said.

C. E. Peterson, Michigan State University vegetable plant breeder, said the prospects for tailoring vegetables to meet specific needs and quality are better than ever as a result of new methods of plant breeding.

R. L. Carolus, head of vegetable crops at Michigan State University, spoke of future challenges in vegetable production.

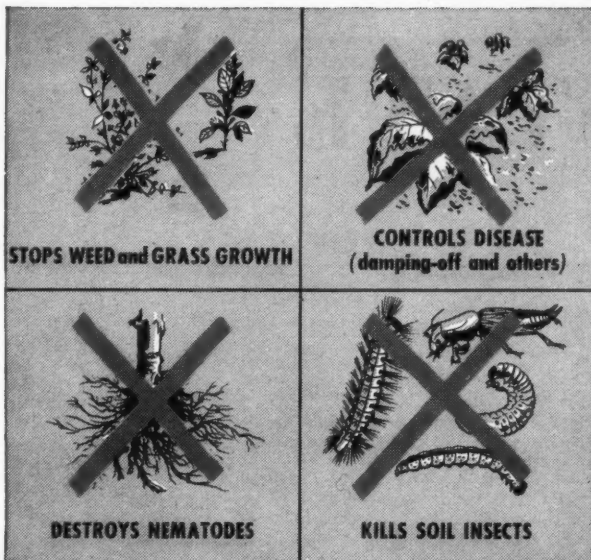
S. H. Wittwer, of Michigan State, told about cold treatments and

(Continued on page 31)



Posing prettily at the VGAA annual banquet after being named Vegetable Queen for 1957 is blonde Lorraine Kickasola, 18, of Eldora, N.J. Her parents own and operate a truck crops and poultry farm. Shirley Ann Brandt, 19, of Im- lay City, Mich., was chosen maid-of-honor.

Now It's Easy To Have Clean Plant Beds



BEDRENCH

NO PLASTIC COVERS—NO SPECIAL APPLICATORS REQUIRED

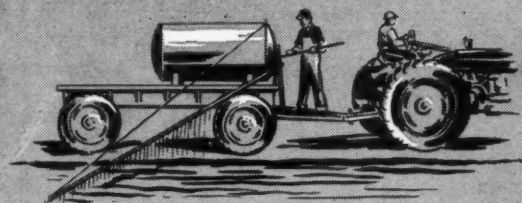
Just Drench Beds Before Planting

Want to eliminate hand weeding? Want to improve your rate of seeding emergence? Want to raise healthy young plants that thrive in fumigated soil; plants that are free from disease, nematode or insect attack? Want to treat all your seed beds at one time? Then you want Bedrench.

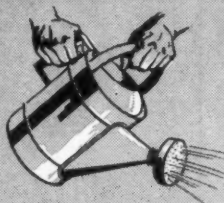
Bedrench is an exclusive Niagara formula. Use it with profit for tomatoes, peppers, egg plant, cauliflower, cabbage, broccoli, celery, strawberries and other crops started in seed beds. Bedrench also gives flower and nursery seedlings a quick, healthy start. You just mix it with water and drench into your prepared soil.

Bedrench is easy to apply (see diagrams). You can do it any time—up to within 10 to 12 days before planting. See your Niagara dealer or write for literature.

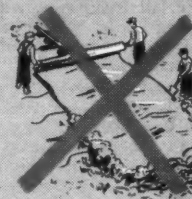
HERE'S HOW EASY YOU CAN DO IT!



DRENCHING BED BY GRAVITY FLOW THROUGH BOOM



SMALL BED APPLICATION



NONE OF THIS!

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Middleport, N. Y., Richmond, Calif., Jacksonville, Fla., Tampa, Fla., Pompano, Fla., Wyoming, Ill., New Orleans, La., Ayer, Mass., Harlingen, Tex., Yakima, Wash., Pine Bluff, Ark., Canadian Associate: NIAGARA BRAND SPRAY CO., LTD., Burlington, Ontario

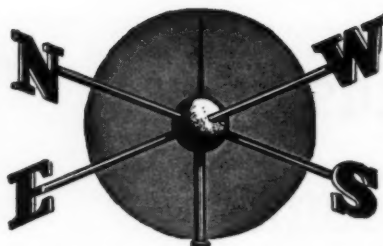


"Bedrench is a trade mark of the Niagara Chemical Division"

JANUARY, 1957

17

STATE



NEWS

- California Produces Record Tomato Crop
- New Chemical Controls Quackgrass in Wisconsin Potatoes

Tomato Record

CALIFORNIA—Final production total for the state's tomato crop is expected to reach a record high of 2,850,000 tons, in spite of rain and scattered frost which terminated last pickings, reports Howard Wilson, manager of the California Tomato Growers Association. Previous high was 2,210,000 tons.—*Neale Leslie.*

Marketing Plan

INDIANA—Preliminary plans for a wholesale farmers' assembly market for fruit and vegetables have been made by Purdue University, working in co-operation with the USDA. Many growers are taking an active interest in developing such a market in the Vincennes area.—*F. C. Gaylord, Sec'y, Lafayette.*

Quackgrass Control

WISCONSIN—Test plots at the Spooner Branch Experiment Station this past season have demonstrated the value of the chemical, Dalapon (made by Dow Chemical Co., Midland, Mich.), for providing good, safe, low-cost control of quackgrass in potatoes.

The effect of various treatments for quack control on total yield of Russet Burbank potatoes was as follows:

Treatment	Yield Bushels per acre
Fall plowed only.....	400
Quack dug, 6 times, fall 1955.....	420
10 lbs. per acre Dalapon, Oct., 1955.....	502
5 lbs. per acre Dalapon, May, 1956.....	660

Excellent quackgrass control was achieved during the growing season with the 5-pound spring treatment and good control with the 10-pound fall treatment. In fall-plowed and quack-dug plots, quackgrass became troublesome in the rows of potatoes during the growing season.

Harold Gatzke, vegetable grower of Berlin, Wis., appeared on a panel discussion at the recent Vegetable Growers Association of America annual convention at Grand Rapids, Mich. Harold discussed his lettuce and celery growing operation on muck soil.—*John A. Schoenemann, U. of Wisconsin, Madison 6.*

Mark Your Calendar!

OHIO—Vegetable growers of the Buckeye state will have opportunity to get information on production and marketing of vegetables at three different meetings, all aimed to meet the special needs of that particular group.

The Ohio Muck Crops School will be held at Celeryville, on January 17-18. Most of the first day's program will be devoted to reports on work underway at the Muck Crops Substation of the Ohio Agricultural Experiment Station. Soil fumigation, nematodes, radish diseases, and foliar analysis are some of the subjects to be discussed.

The second day will be devoted largely to marketing.

The Annual Conference for Cannerymen, Fieldmen and Growers of Vegetable Crops for Processing is scheduled for January 28-29, Deshler-Hilton Hotel, Columbus. This program is planned primarily for field men of vegetable processing companies and growers of vegetables for processing. Annual awards to top tomato growers will be presented by the Baltimore and Ohio Railroad.

More than 500 growers, their wives, and commercial representatives are expected at the 42nd annual meeting of the Ohio Vegetable and Potato Growers Association in Cincinnati, February 4-6, at the Netherland-Hilton Hotel. Special sessions will be held for greenhouse vegetable growers, potato growers, and truck crop producers. A ladies' program and the crowning of the 1957 Ohio Vegetable Queen also will be highlights.

The Trade Show promises to be the best yet, with 40 different companies expected to exhibit.

E. M. Emmert, University of Kentucky, will discuss work he has been doing with plastic greenhouses, and potato growers will hear H. O. Werner, University of Nebraska, discuss research he has been conducting with new varieties, storage, and general culture. John Carew, horticulturist from Michigan State University, will evaluate trends in vegetable and potato production and marketing.

Growers interested in securing copies of the program for the Cincinnati meeting should write to Ohio Vegetable and Potato Growers Association, Columbus 10, Ohio.—*E.C. Wittmeyer, Sec'y, Columbus.*

Some Yield!

NEW HAMPSHIRE—A record potato yield of 783 bushels per acre was measured by extension service personnel at the Colby
(Continued on page 24)



THREE Generations...

of the ROBINSON family have devoted their lives for nearly a century to specialized VINESEED research, breeding and production.

TODAY we are America's largest producers of VINESEEDS. Are YOU profiting from using our Specialized Strains?

INSIST ON ROBINSONSEEDS FROM YOUR SUPPLIER

Lawrence Robinson & Sons
—MODESTO, CALIFORNIA



SPECIALIST VINESEED BREEDERS

CANTALOUPE • CUCUMBER • PUMPKIN • SQUASH • WATERMELON

WS

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son, Columbus 10,
Sec'y, Columbus.

A record potato
acre was measured
onnel at the Colby
(page 24)



OLIVER SUPER 88 POWER

keeps you ahead

Here's *more* power to help you do more when everything is *right*—ground, weather, crop. You put higher quality produce on the market ahead of time—do better on price, profit *more*.

This Super 88 is the work champion, the huskiest row-cropper built. Right up to that 50-drawbar-horsepower mark for deep, 4-bottom plowing. You even come out ahead in upkeep. Choose the smooth 6-cylinder engine that saves the most: 7.3 to 1 compression gasoline

...100% diesel...factory-built LP-gas.

And what a time-gainer and crop-saver! Patented "Hydra-lectric" system, with tractor-seat hydraulic depth control, permits fast, accurate 4-row planting and cultivating. *Completely* independent PTO speeds up wide-swath spraying and harvesting, saves the cost of extra engines. Then there's power steering and power-shift wheels.

This Super 88 is the big bargain, too. Look what you get as standard

equipment: multiple-speed transmission with ample overlap in each gear to fit the tractor to any job and save fuel...restful rubber torsion seat...recirculating-ball steering*... double-disc brakes with patented, equal-pressure master pedal that makes handling easier and safer.

The OLIVER Corporation,
400 West Madison Street,
Chicago 6, Illinois.

*With adjustable front-axle model.



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"FINEST IN FARM MACHINERY"

FOR EARLIER CROPS
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Jiffy-Pots

The Revolutionary New
Plant Growing Containers



This remarkable new pot is composed of 75% peat and 25% wood fiber and impregnated with 1.3% nitrogen, 1% phosphorus, and 1.6% potash.

Roots grow right through the walls, permitting transplanting outside without removing the Jiffy-Pots. They are inexpensive... lightweight... long lasting... provide excellent root aeration... need less watering... and save considerable labor.

The most striking feature of Jiffy-Pots is the fast premium growth which they support.

PRICES

2 1/4 INCH	Per 1000
3,000 to 18,000 (3,000 \$21.75).....	\$7.25
21,000 to 72,000.....	6.75
75,000 up.....	6.50
Sold in cases of 3,000. Minimum order 3,000. 35 lbs. per case.	

3 INCH	Per 1000
1,500 to 9,000 (1,500 \$19.88).....	\$13.25
10,500 to 49,500.....	12.25
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We also can supply veneer plant bands and Bird Vita-Bands. Write for prices.



Tomatoes are an excellent subject for Jiffy-Pots. Planted out without any growth check, they will produce earlier.

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I N C.
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Phone 299

Make Plans NOW to Prevent Crop Losses Next Summer

Learn all about your crop and its needs before you plant the seed

By J. MITCHELL JENKINS

North Carolina State College

ONE of the most challenging tasks of a horticultural worker is that of determining the cause, or causes, of troubles that affect vegetable crops. We call it trouble shooting.

A grower walks into your office or laboratory holding a sick-looking tomato or lettuce plant and asks, "What's the matter with this plant?" He may have one row or 100 acres. In either case, he is interested in finding out what he can do to cure the trouble or prevent it next year. A correct diagnosis may save him hundreds of dollars. On the other hand, if the wrong diagnosis is made, a valuable crop may be lost.

In eastern North Carolina most vegetable crop problems involve either insects, diseases, or physiological troubles, some of which are hard to pin down. There are also several kinds of nematodes, injuries due to the use of herbicides or other chemical sprays, and troubles arising from the improper selection of varieties or seed sources. Usually we must go to the field where the crop is growing in order to determine the cause of the trouble, unless it is something obvious, such as downy mildew on cucumbers or root-knot nematode of tomatoes.

Soil Problems

One of the most common causes of trouble along the Atlantic Seaboard is improper soil reaction or acidity. Vegetables such as beets, onions, shallots, lettuce, and spinach will not tolerate soils that are too acid.

A pH reading below 5.5 on the sandy coastal soils often means trouble for these crops, and a reading as low as pH 4.5 or 4.0 means a crop failure. Growers should have their soils tested at frequent intervals and should use lime to keep the pH up to 6.0 or slightly higher. When dolomitic limestone is used for liming soils, it supplies calcium as well as magnesium, another element that is often deficient in acid soils. So this form of lime is fre-

10 RULES TO FOLLOW TO PREVENT CROP LOSSES

- 1) Select a reliable source of seed.
- 2) Buy the correct variety and strain for your purposes.
- 3) Find out if the seed should be treated with an insecticide or fungicide before planting.
- 4) Select the best soil available for the crop you wish to grow. Have the soil tested and follow recommended liming and fertilizing practices.
- 5) Find out what precautions have to be taken to prevent insect injury or common diseases. (Some treatments have to be made to the soil prior to planting time to be effective.)
- 6) Treat the soil prior to planting to kill nematodes if they are a problem in your area.
- 7) Provide good drainage, and provide for irrigation, if possible.
- 8) Spray or dust at the right time, and with the proper materials, to prevent insect injury and diseases.
- 9) Cultivate correctly.
- 10) Learn the "tricks" of growing specialized crops, and use them.

quently recommended for the correction of acid soil conditions.

A less common soil problem in our area is manganese or iron deficiency on alkaline spots. These occur where too much lime has been used, or where oyster shells or other calcareous materials have been applied. The yellow plants growing on these spots can usually be greened-up by the application of manganese sulfate and/or iron sulfate plus an application of powdered sulfur to make the soil more acid.

Other common soil problems include improper use of fertilizers, poor drainage, and careless cultivation practices.

Growers can avoid many causes of crop failure if they will take several precautions which involve some study of the crop and of the land on which they will grow it. The check list above covers 10 important points to be considered.

Many of the things listed sound simple and routine, but it is surprising how many growers run into serious troubles because they forgot some simple practice.

The trouble shooter sees all sorts of problems, many of which would not have developed if the grower had planned his growing schedule carefully and had learned all that he could about the crop he wished to grow.

The old proverb still holds true: "An ounce of prevention is worth a pound of cure," but it is wise to remember that many times the only cure is prevention! THE END.

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Best of all—this sparkling new, easy-handling tractor is **THRIFTY**—all the way. It saves you dollars when you buy it and when you use it. Its dependable, time-proved engine is a real fuel-miser—yet it delivers power to pull two 12-inch plow bottoms in most soils, to operate a 6-foot double-action disk-harrow. A complete line of low-cost equipment is available.

The "320" Standard, with 21-inch

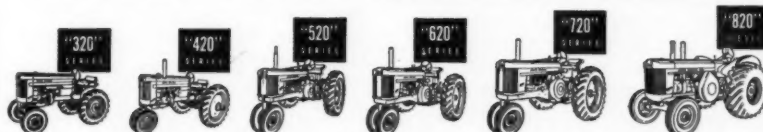
clearance, is ideal for tobacco, cotton, corn, peanuts, hay, strawberries, and vegetables. Handles one-row planting, fertilizing, and cultivating jobs. The low-built "320" Utility is ideally suited for orchard, field, grove, vineyard, haying, and hauling work.

Regular "320" Equipment Includes:

Three-point hitch with Load-and-Depth Control... famous "live" Touch-o-matic hydraulic system... full wheel-tread adjustments... swinging drawbar... power take-off... four forward speeds and reverse... independent disk-type brakes... deep-cushion seat.

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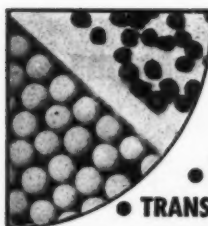
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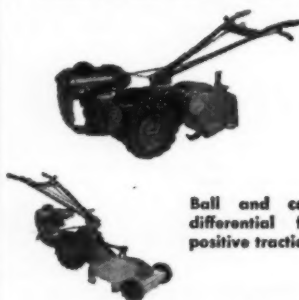
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A good set of Japanese Seedless watermelons in the field. No melons in this photo were moved.

Made in Japan . . .

SEEDLESS WATERMELONS

The exciting new Japanese Seedless watermelons
are catching the interest of American growers

By F. E. JOHNSTONE, JR.

University of Georgia

THE Japanese Seedless watermelon is a specialty crop. Growers who have a discriminating market close at hand and are willing to learn how to grow this variety may find it quite profitable. However, it is not recommended for general planting because of the high cost of seed and the care necessary to get a good stand.

We began testing the Japanese Seedless watermelons at the University of Georgia in 1951, and have included them in our variety trials each year since then. Our first seed was obtained from the Fujita Seed Company, Ltd., of Osaka, Japan. Later we obtained seed from American seed houses*, which came originally from Japanese sources.

In addition to testing the productivity and other performance characteristics of the Japanese Seedless, we have grown it in large enough blocks for the past four seasons to test its local market performance and acceptability. Customers at our college sales-room have learned about the Japanese Seedless and frequently ask for it. Costing twice the price per pound

of standard varieties, the "seedless" are usually sold out before the same quantities of standard types. In addition to commenting on their relative seedlessness, customers frequently praise the sweetness, flavor, consistency of flesh, and keeping quality of the seedless types.

How They're Produced

The principle behind the production of the Japanese Seedless melon is much the same as in the production of hybrid corn or of mules. The chief difference is that one of the parent lines of watermelons used for cross breeding is a tetraploid, a plant with double the normal number of chromosomes, which has been produced by use of the drug, colchicine. Once the tetraploid is produced, it is maintained by self-pollination.

To produce the seedless melons, an ordinary variety of melon is planted together with the tetraploid, and the two are crossed by hand. The resulting hybrid is a triploid (containing 1½ sets of chromosomes) and is largely sterile.

However, just as occasionally a fertile mule is produced, likewise occasionally, a viable seed is produced in the seedless melon. Also, and more frequently, the outer hard seed coat is stimulated to develop normally, but will contain no embryo. These two

(Continued on page 32)

*Joseph Harris Co., Inc., Moreton Farm, Rochester 11, N.Y.; W. Atlee Burpee Co., Burpee Bldg., Philadelphia 32, Pa.; Vaughan's Seed Co., 601 W. Jackson Blvd., Chicago 6, Ill., and Colchicine Research Foundation, 1005 Hovy Ave., Normal, Ill. The latter has begun a breeding and research program of its own. Another source of seed is American Seedless Watermelon Corp., R.R. 1, Gosben, Ind.

woodruff seed

FOR A BETTER CROP OF

Carrots

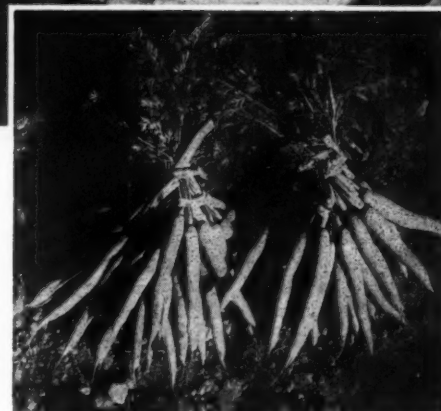


IMPERATOR LONG TYPE CARROT

A specially selected strain of Imperator developed to meet the demand for a longer, slender, tapering carrot of the Imperator type. It will average 1½ - 2 inches longer than the original strain of Imperator. Attractive orange-color flesh has exceptional eye appeal.

Try the Woodruff strain of this popular variety, now being used extensively in the large carrot-growing areas of the West and Southwest.

Prompt shipment if you contact either of the following representatives or any of the Woodruff Branch offices listed below.



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PROFITABLE ROADSIDE MARKETING

By R. B. Donaldson and W. F. Johnstone

A practical handbook for the successful operation of a roadside market. It is the result of many years' study of "on-the-farm" marketing in all parts of the country by two experts in the field. Every phase of roadside marketing is covered—planning, building roadside stands, handling and storing produce, packaging, pricing, advertising, etc. Illustrated with photographs, charts, drawings.

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WILLOUGHBY, OHIO**

SENSATIONAL!! New Low Cost Plastic Greenhouse Heating

WITH **KUR-MOR**

(USING L.P.
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50,000 BTU Input
Rugged Construction
No Vent Required

100% Safety Pilot
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WRITE

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STATE NEWS

(Continued from page 18)

Brothers Farm in Litchfield, Hillsboro County. The yield was measured on a 14-acre field of Chippewas.

The Colbys 1956 potato acreage totaled 110 acres and was made up of Sebagos, Russets, and Merrimacks, in addition to the Chippewas. Total yield was 60,000 bushels.

The extension service has sponsored a 300-Bushel Club for several years. Thirty-one other growers also had yields of over 300 bushels per acre.

University of New Hampshire potato specialist, Paul T. Blood, heads this educational potato program.—*Perley D. Colby, Milford.*

White Mold Control

NEW YORK—A new chemical—Terraclor (made by Olin Mathieson Chemical Corp., 32 South St., Baltimore 2, Md.)—shows promise of licking white mold disease on red kidney, wax, and snapbeans. "A single application at blossomtime will give good protection," reports Prof. Arden Sherf, plant pathologist at the New York State College of Agriculture.

Increased use of irrigation, high fertility, and other cultural practices that make for heavy foliage are causes of the disease, says Sherf.

Severe Drought

MICHIGAN—A very severe, late season drought has had growers worried about possible injury to perennial crops.

The 1956 Cauliflower crop matured four weeks early in most areas, with heads small but of good quality.—*S. K. Ries, East Lansing.*

Seed Group Elects

VIRGINIA—T. Hume Dixon, Townsend, has been re-elected chairman of the Virginia State Seed Potato Committee. The

committee is charged by law with setting the standards for imported seed potatoes. The committee was formed in 1950 and its activities have materially improved the quality of seed received by growers.—*W. T. McCabel, Jr., Exec. Vice-Pres., Bell Haven.*

Onion Yellow Dwarf Control

OREGON—A majority vote of the onion growers in the Lake Labish area near Salem has put back into operation the program for control of onion yellow dwarf.

Purpose of the program is to eliminate sources of infection that carry the virus disease organism. Sources include onion bulbs from the previous crop, onion sets, volunteer onions in new plantings, and onions being grown for seed from bulbs. The disease is not carried in onion seed.

Among the major features of the control order are:

No person shall use green onion plants, onion sets, or onion bulbs for planting for the production of onions within the control area.

All cull or waste onions shall be removed from the area prior to April 1 of each year, provided, however, that in the case of onions sorted after that date, the cull and waste onions be removed within 24 hours after sorting.

No cull or waste onions may be dumped or maintained within the control area after April 1 of each year. This prohibits the earlier practice of dumping cull onions on fields as a source of organic fertilizer.

All onions in which, upon inspection, aphids are found must be removed from the control area within 48 hours of the written notice by the Department of Agriculture to the person in charge of the onions.

The Lake Labish area onion growers

(Continued on page 36)

Know Your . . . VEGETABLE SEEDS

By **VICTOR R. BOSWELL**

U.S. Department of Agriculture

CABBAGE

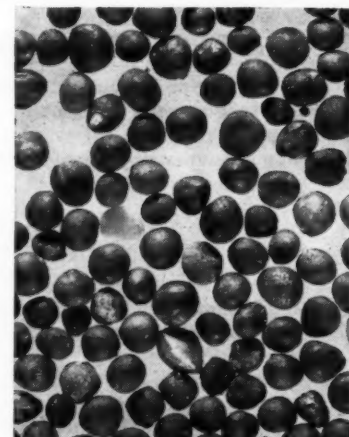
THE small, spherical, purplish-brown seeds of cabbage are borne in a long, slender, two-parted pod, or fruit, called a silique. The pods are borne on a tall, much-branched seed stalk that develops in the second season of growth after the mother plant has passed through a cold period of rest. The seed itself is of moderate longevity and tolerance to ordinarily good storage conditions.

The United States normally imports about 50 to 60% of its cabbage seed, chiefly from the Netherlands and Denmark. During World War II supplies were critically short and domestic production was sharply, but temporarily, increased. In recent years production on 600 to 800 acres in the United States has totaled 400,000 to 500,000 pounds of seed annually.

Domestic yields average 600 to 700 pounds per acre but fluctuate widely because of variations in severity of diseases. Temperature requirements at different stages of growth also are very exacting, and rain at harvesttime can be disastrous.

To reduce the incidence of seed-borne diseases, most of our domestic cabbage seed is produced in the West, with Washington and California the principal producing states.

Commercial seed is most commonly grown "seed-to-seed," without transplanting selected mother plants that have formed



heads, in order to keep production costs at a minimum. In California the heads may be harvested and then seed may be produced from the stumps of the plants. In the Puget Sound district the mother plants go through the winter in the rosette stage and produce seed without ever forming heads.

CALENDAR OF COMING MEETINGS AND EXHIBITS

Jan. 3-5—New York State Vegetable Growers Association and Empire State Potato Club, joint meeting, Hotel Van Curler, Schenectady.—W. B. Giddings, Sec'y, Baldwinsville.

Jan. 9-10—Connecticut Vegetable Growers' Association 44th annual meeting, Restland Farms, Northford. New Haven growers in charge.—Frank W. Roberts, Sec'y, Maple Shade Rd., Middletown.

Jan. 10—Maryland Vegetable Growers Association, Phoenix Room, Lord Baltimore Hotel, Baltimore.—A. A. Duncan, Sec'y, U. of Maryland, College Park.

Jan. 10-12—Northeastern Weed Control Conference, 11th annual meeting, Sheraton-McAlpin Hotel, New York City.—E. M. Rahn, Dept. of Hort., U. of Delaware, Newark.

Jan. 15—Pennsylvania Vegetable Growers Association meeting, State Farm Show, Harrisburg.—R. F. Fletcher, Sec'y, Penn. State U., University Park.

Jan. 17-18—Vegetable and fruit growers short course on marketing, soil fertility, and insect control, New Mexico A & M College, State College.—T. E. Raynor, 1801 Bellamah Dr., Las Cruces.

Jan. 17-18—Ohio Muck Crops School, Celeryville.—E. C. Wittmeyer, Dept. of Horticulture, Ohio State U., Columbus 10.

Jan. 20-24—National Potato Chip Institute, Statler Hilton Hotel, Dallas, Tex.—Institute headquarters: 946 Hanna Bldg., Cleveland, O.

Jan. 21-22—Pennsylvania Vegetable Growers Association conference, Nittany Lion Inn, Pennsylvania State University, University Park.—R. F. Fletcher, Sec'y, University Park.

Jan. 21-26—New Jersey Farmers Week, Trenton.—Fred W. Jackson, Dir., Div. of Information, Dept. of Agriculture, Trenton 25.

Jan. 28-29—Annual Conference for Cannery, Fieldmen and Growers of Vegetable Crops for Processing, Deshler-Hilton Hotel, Columbus, Ohio.—E. C. Wittmeyer, Dept. of Horticulture, Ohio State U., Columbus 10, Ohio.

Jan. 28-31—United Fresh Fruit & Vegetable Association annual meeting, Benjamin Franklin Hotel, Philadelphia, Pa.—Association headquarters: 777 14th St., N.W., Washington 5, D. C.

Week of Jan. 28—Farmers' Week, Michigan State University, East Lansing.—S. K. Ries, Sec'y, East Lansing.

Feb. 4-6—Ohio Vegetable and Potato Growers Association, 42nd annual meeting, Netherland-Hilton Hotel, Cincinnati.—E. C. Wittmeyer, 210 Horticulture Bldg., Ohio State U., Columbus.

Feb. 4-6—Fieldmen and Processors Conference, Kellogg Center for Continuing Education, Michigan State University, East Lansing.—S. K. Ries, Sec'y, East Lansing.

Feb. 4-9—Food Processors' Workshop, University of Maryland, College Park.—A. A. Duncan, Ext. Veg. Crops Specialist, College Park.

Feb. 5-7—New Hampshire State Horticultural Society meeting, Highway Motel, Concord. Feb. 5—Fruit program; Feb. 6—Vegetable program; Feb. 7—Potato program.—E. J. Raasmussen, Sec'y, Durham.

Feb. 7-8—Wisconsin Muck Farmers' Association annual meeting, held during Farm and Home Week, University of Wisconsin, Madison.—John A. Schoenemann, U. of Wisconsin, Madison 6.

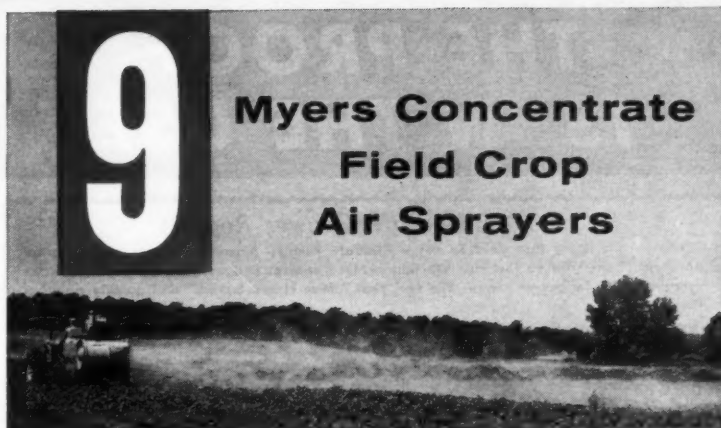
Wisconsin potato meetings: Feb. 12—Spooner; Feb. 13—Rhinelander; Feb. 14—Antigo.—John A. Schoenemann, U. of Wisconsin, Madison 6.

Feb. 12-14—Technical School for Pickle Manufacturers, Kellogg Center for Continuing Education, Michigan State University, East Lansing.—S. K. Ries, Sec'y, East Lansing.

Southeastern Wisconsin vegetable grower meetings: Feb. 20—Milwaukee County Agricultural Agent's office; Feb. 21—Racine.—John A. Schoenemann, U. of Wisconsin, Madison 6.

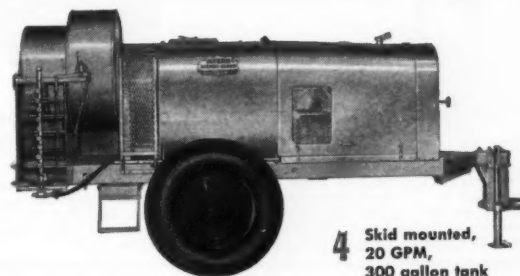
Feb. 25-27—Indiana Cannery and Fieldmen's Conference, Purdue Union Bldg., W. Lafayette.—F. C. Gaylord, Sec'y, Lafayette.

Oct. 9-11—Florida Fruit & Vegetable Association 14th annual convention, Hotel Fontainebleau, Miami Beach.—Florida Fruit & Vegetable Assoc., 4401 E. Colonial Drive, Orlando.

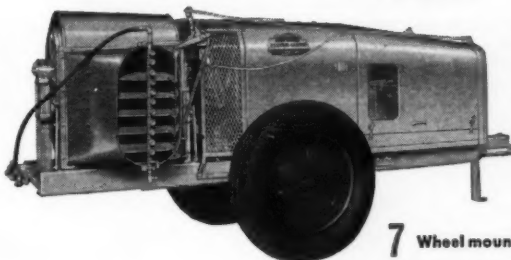


Give every grower CUSTOM SELECTION

- 1 Wheel mounted, 20 GPM, 300 gallon tank
- 2 Wheel mounted, 20 GPM, 400 gallon tank
- 3 Wheel mounted, 20 GPM, 500 gallon tank

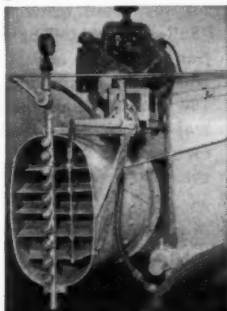


- 4 Skid mounted, 20 GPM, 300 gallon tank
- 5 Skid mounted, 20 GPM, 400 gallon tank
- 6 Skid mounted, 20 GPM, 500 gallon tank



- 7 Wheel mounted, 20 GPM, 300 gallon tank
- 8 Skid mounted, 20 GPM, 300 gallon tank

- 9 Concentrate attachment for any high pressure sprayer



More high velocity air and a high pressure spray pump that delivers droplets of just the right size is the perfect combination that makes Myers Concentrate Sprayers leaders in their field. Up to 45,000 cubic feet of air per minute moving 90 miles per hour covers every plant from leaf tip to ground level with an even, effective cover of spray material. Results: cleaner, more profitable harvests at lower costs season after season.

Myers complete sprayer line boom sprayers
Includes a full line of



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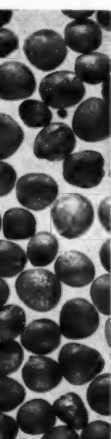
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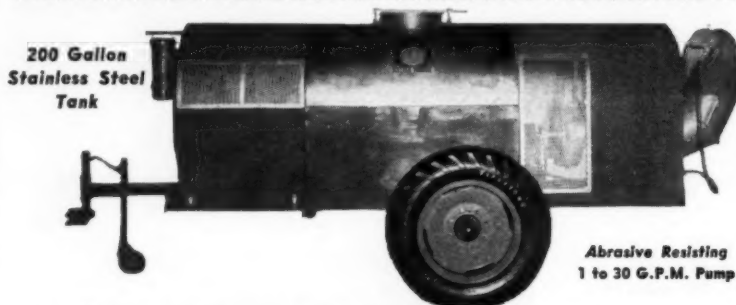
JANUARY, 1957

25

THE PROOF IS IN THE USE

A Maine Potato Grower Reports

Although this is my first year to use a "Buffalo Turbine Sprayer" on my 385 acres of potatoes, I am sold on this rig. We had perfect control and covered 20 acres an hour using only 20 gallons per acre. We feel that "Man Hours Saved" will quickly pay for the machine.



200 Gallon
Stainless Steel
Tank

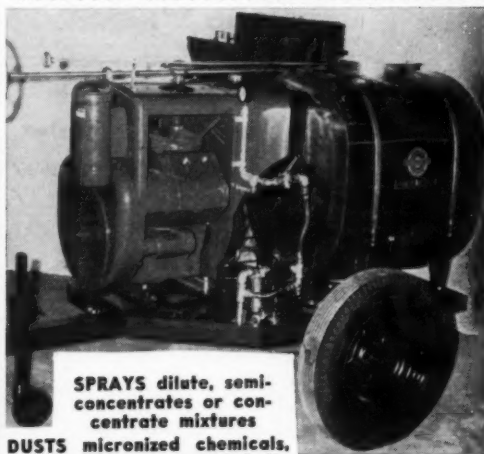
Abrasive Resisting
1 to 30 G.P.M. Pump

For Spraying Dilute, Semi-Concentrates or Concentrates The 200 Gallon Stainless Streamliner

The new "Stainless Steel Streamliner" with a 200 gallon stainless steel tank will give years of trouble free service at LOW initial cost. "ONE MAN OPERATION", light in weight (Less than 2000 lbs.). This combination dilute, semi-concentrate and concentrate sprayer is acclaimed as the outstanding sprayer of 1957. Other features include dual purpose for both orchards and row crops, adjustable axle as to height and width, and a choice of two special pumps for either dilute or high concentrate application.

A Big Pennsylvania Vegetable Grower Reports

This is the second year of use for our Buffalo Turbine Sprayer and our second year of excellent control in ALL of our crops. Tomatoes were blight free, Broccoli, Cauliflower, and Cabbage were the cleanest and our many acres of sweet corn picked over 95% without any signs of earworm.



The 100 Gallon Combination

Buffalo Turbine Sprayer and Duster

Large enough for the big grower and small enough for the small grower. The "Buffalo Turbine" combination Sprayer and Duster comes with a stainless steel 100 gallon tank, skid or trailer mounted. Designed for orchard or row crop spraying or dusting.

SPRAYS dilute, semi-concentrates or concentrate mixtures

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Can be handled with light tractor—only 1/10th liquid required.
3. **Greater Coverage**
Turbulent air atomizes spray or dust—gives greater penetration.
4. **Less Material per Tree**
Greater per cent coverage with mist—less run-off.
5. **Less Labor**
One man can operate and cover more trees per hour.
6. **Completely Universal**
Sprays, dusts, or both—covers row crops or highest trees.
7. **Low First Cost**

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Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

CONNECTICUT FIELD PUMPKIN

I have been searching for a long time for a buff-skinned pumpkin with pale buff flesh (not Cheese pumpkin) that was grown quite extensively in 1912-1915. Its name might be Buff Pie, and it may have come from Connecticut Field pumpkin seed.—New York.

Buff pie is synonymous with Cheese and is not the variety you want. We feel certain you are looking for the common field pumpkin of Connecticut, known as the Connecticut Field, which varies from pale yellow to orange and has buff colored flesh. It is available from most seed companies.

POSSIBLE NEW VARIETY

I have developed a new sweetpotato which I think is a new variety. Could you tell me how to go about finding out?—New Jersey.

Send several specimens to C. H. Nissley, Extension Vegetable Specialist, Rutgers University, New Brunswick, N. J., along with a letter telling him about the origin of your sweetpotato. He is in the best position to advise you.

PLANT BED COVERS

Who manufactures cheesecloth for covering plant beds?—Missouri.

Try Chicopee Mills, 47 Worth St., New York, N. Y.

HOTBED OR COLD FRAME SEEDER

Do you know who makes a good hotbed or cold-frame seeder?—New York.

Try Vibra Seeder, manufactured by Park Products, Lombard, Ill.; Vaughan's Seed Co., 601 W. Jackson Blvd., Chicago, Ill.; Eee-Zee Seed Sower, sold by Breck's, 250 Breck's Bldg., Boston, Mass.; Little Wonder seeder, manufactured by Harold J. Kern & Son, 806 Walnut St., Perrysburg, Ohio.

MELON GROWERS JOIN FORCES

We are starting a melon growers association in Jackson County, Indiana. Can you send us some sample constitutions or something to go by in drawing up our constitution?—Indiana.

We are having sample constitutions and other information sent to you from the Vegetable Growers Association of America and from your state college. It might be wise to employ the services of an attorney who has had some experience with co-operative organizations. R. O. Dunsdon, extension economist at Purdue, advises he will be glad to meet with you and assist in any way possible.

We hope that your association gets off to a flying start. Only by joining together and working together can growers take full advantage of opportunities in today's markets.

BROCCOLI VARIETIES

Is there a non-branching broccoli variety that would be suitable for growing in my area?—Michigan.

There is no non-branching broccoli variety that would do well in your locality although the Green Mountain is later than other varieties in producing branches or side sprouts. The non-branching strains that resemble cauliflower are grown successfully only on the West Coast.

AMERICAN VEGETABLE GROWER

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Questions Editor,
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GETABLE GROWER

SETTING STAKES *Mechanically*

California growers set stakes
with new tool bar attachment

SETTING stakes mechanically has greatly reduced the labor bill at the Davis Brothers ranch, Oxnard, Calif.



Stakes are placed in this "jaw" and forced into ground to depth of 12 inches. By removing one bolt, the "jaw" can be taken off the tool beam.

Four men can now set 4000 stakes for Blue Lake string beans in a 10-hour day. It formerly took 12 men to set stakes at this rate. Since they had 60 acres in string beans this year, with 1000 stakes required per acre, the mechanical setting of the stakes knocked a big chunk off the labor bill.

The Davis brothers have about 2500 acres in their ranch. Devoted entirely to row crops, some of the land is double-cropped and some even triple-cropped. Tomatoes, string beans, ford hook lima beans, baby lima beans, cauliflower, broccoli, lettuce, cabbage, celery, peas, carrots, dry lima beans, and sugar beets are grown on the ranch.

Use Tractor Tool Bar

Mechanical stake setting became possible when they equipped the No. 4 Tool Bar on their Caterpillar D4 tractor to serve as a stake driver. This tool bar has three "jaws" mounted to the beam to permit three



Automatic string machine weaves string onto redwood posts 7 feet long and 1 3/4 inches square. String is stapled to posts; Top strand is No. 16 galvanized soft basic wire; bottom strand is heavy twine; vertical string is No. 50-2C.

stakes to be driven at once. A man works at each "jaw," and as the men put the stakes in place, the tractor operator forces them into the ground to a depth of 12 inches with hydraulic down pressure on the Tool Bar. The poles are set 20 feet apart in the 40-inch rows.

After the poles are set up, the Davises use a string machine made by Rears Farm Service, 755 River Ave., Eugene, Ore., to weave the string and staple it to the poles. The self-powered stringer automatically weaves the string on the poles at the rate of a half-acre per hour. THE END.

HARRIS SEEDS

Harris Famous MORETON HYBRID

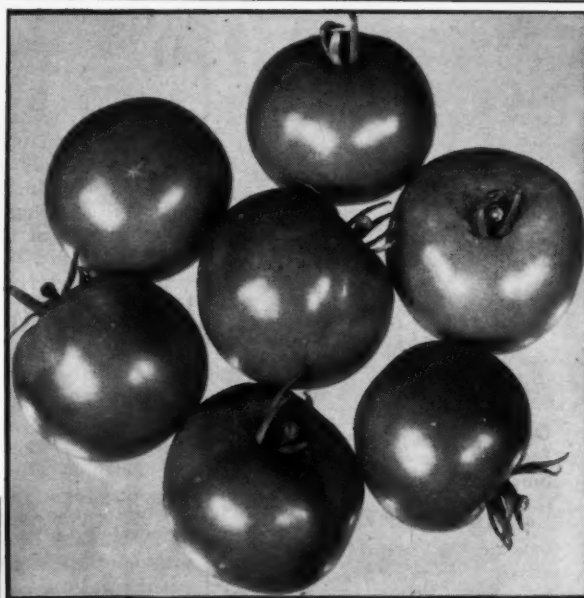
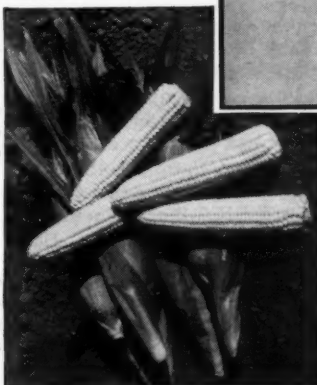
The Best Early Tomato

- Hybrid Vigor . . . Exceptional Yields
- Early Maturity plus Long Bearing Season
- Large, Smooth, Attractive Fruit
- Solid and Meaty with Rich Red Color and Superb Quality
- Spreading Vines for Good Coverage
- Widely Adapted — Outstanding in the East and Middle West— Highly Rated in Southern Trials

Moreton Hybrid is acclaimed by many growers as the finest early tomato they have grown. Be sure to grow this great hybrid in 1957!

1/16 Oz. \$2.20; 1/8 Oz. \$4.00; 1/4 Oz. \$7.50; 1/2 Oz. \$13.50; 1 Oz. \$25.00.

Harris' NORTH STAR Sweet Corn—The most widely grown early hybrid—remarkably vigorous and comes up strongly even through cold ground. Large, well-filled ears and smooth attractive husks.



For the top strains of best commercial varieties ask for FREE CATALOGS—

Our Special MARKET GARDENER'S PRICE LIST will be sent along with our regular catalog.

JOSEPH HARRIS CO., INC.
75 Moreton Farm, Rochester 11, N. Y.

RAIN BIRD

The Sprinkler of Achievement

No. 30

With its spoon-type, one-piece arm, open spring and simple, efficient bearing, Rain Bird has achieved world-wide sprinkler irrigation success.

For top sprinkler performance, always count on Rain Bird, the sprinkler that has set the standard for sprinkler performance. Also, be sure the sprinkler system you get meets the American Society of Agricultural Engineers' standards and fits your requirements exactly.

Literature and information on request.

NATIONAL RAIN BIRD SALES & ENGINEERING CORP.
AZUSA, CALIFORNIA

RAINY SPRINKLER SALES
609 WEST LAKE ST. PEORIA 5, ILLINOIS



Orson Robson, our head corn breeder, is shown here with our brand new sweet corn hybrid,

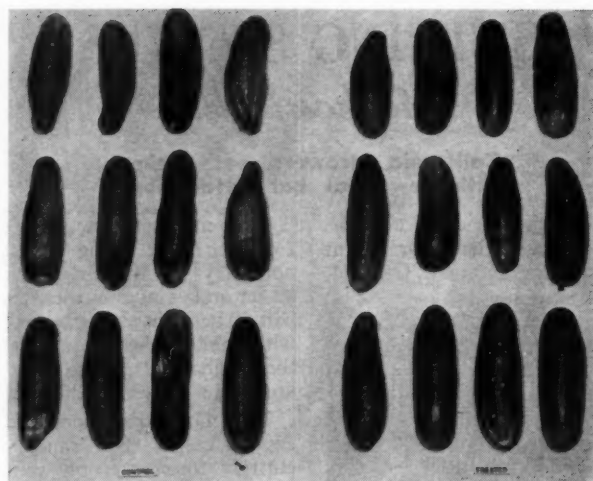
"SENECA WARPATH"

Ears are 7 1/2" long, 14-16 rows of small narrow, fine-grained kernels well-filled to tips. Erect strong stalks, 7-8 ft. High yields and greater percentage of marketable ears. 82 days.

Write for Free Grower's Catalog

ROBSON

Quality Seed, Inc.
Box AG-1, Hall, N. Y.



Effects of sorbic acid wax on cucumbers inoculated with rot microorganisms and stored 31 days at 55° F. (relative humidity 85 to 90%). Cucumbers at left were washed and inoculated, but not waxed; those at right were washed, inoculated, and treated with sorbic acid wax. Untreated cucumbers showed 92% rot, treated cucumbers showed 11% rot (see table below).

NEW WAX CUTS LOSSES

Waxing cucumbers with new sorbic acid wax reduces storage decay

By **FRED HEILIGMAN**

Quartermaster Food and Container Institute
for the Armed Forces

MANY vegetable growers suffer losses because of the lack of an efficient and safe treatment which will control transit and storage rot. The recently introduced fungistat, sorbic acid, may prove to be a valuable aid in reducing these losses.

Sorbic acid has enjoyed considerable success in the processed food field because of its excellent fungistatic characteristics, its safe, non-toxic properties, and its low cost. The Quartermaster Food and Container Institute has been conducting tests to determine if this material might aid in reducing transit and storage losses in fresh vegetables. Experimentation to date has been confined to the use of sorbic acid in wax on fresh cucumbers.

Special Wax

A specially-formulated wax (Experimental Wax No. 673D117) which contains 0.5% sorbic acid was used throughout these tests. The base for this formulation is the solvent type, quick-drying, self-polishing wax normally used for waxing cucumbers and is similar to the product marketed under the trade name, Wax-Shine. The first two tests were made on field-grown, regular-run, packing house cucumbers.

The results gave strong indica-

tions that this process would materially aid in controlling transit and storage losses. The amount of decay in the lots treated with the sorbic acid wax after approximately one month's storage was materially less than the control lots which had been treated with regular cucumber wax.

In a third test, which involved about 300 pounds of greenhouse cucumbers, two specific rot-producing microorganisms, *Erwinia carotovora*, which causes bacterial soft rot, and *Mycosphaerella ciperullina*, which causes black rot, were introduced.

The inoculation was done by dipping the washed cucumbers in a heavy aqueous suspension of a mixture of the two rot-producing microorganisms and then air-drying them before treatment with the sorbic acid wax. Within 24 hours after treatment, the various lots were stored at

EFFECTS OF SORBIC ACID WAX ON ROT IN FRESH CUCUMBERS
(Stored at 55° F., R. H. 85 to 90%).

Treatment	% Rot after 7 days' storage*	31 days' storage*
Unwashed	2.4	7.9
Washed Only	1.6	3.0
"Wax-Shine"	0.6	1.0
Expt. Wax No. 673D117**	0.0	0.0
Washed and inoculated**	28.4	92.0
Washed, inoculated, and** Expt. Wax No. 673D117	1.8	11.0

* % Based on weight at time of storage
** See text

AMERICAN VEGETABLE GROWER

the Quartermaster Food and Container Institute at 55° F. (relative humidity 85 to 90%).

The washed and inoculated cucumbers were, for all practical purposes, a complete loss, whereas similar cucumbers which had been treated with the sorbic acid wax were still in fair condition even after 31 days' storage.

The results in the uninoculated lots were consistent with the results in the previous tests; no appreciable decay was noted in the sorbic acid treated lots as compared to 1.0, 3.0, and 7.9% in the untreated lots.

This appears to be the kind of result that can be obtained in routine practices. If field or packing house conditions should be such that the harvested cucumbers are so heavily contaminated with these two decay-producing microorganisms as to cause losses of epidemic proportions, sorbic acid may provide ample protection to prevent total losses.

The use of sorbic acid wax should be relatively inexpensive, as it will not require any additional handling or labor in operations which normally wash and wax produce. The only additional cost would be a nominal expenditure for the acid wax.

THE END.

POTTING SOIL PROTECTED

DR. E. M. EMMERT, professor of horticulture at the University of Kentucky's Agricultural Experiment Station, has solved the problem of storing potting soil outdoors by putting it under a protective cover of Bakelite polyethylene film.

On a plot 5 x 20 feet he piles a 6-inch layer of rotting leaves and with a rotary type tiller mixes in about 3 inches of soil. To this mixture he adds about a pound of ammonium nitrate fertilizer, mixes again, and covers with the film. The film protects the potting soil from rains that compact uncovered ground, and keeps moisture from evaporating, thus preventing caking. Methyl bromide is fed under the plastic to kill weeds.



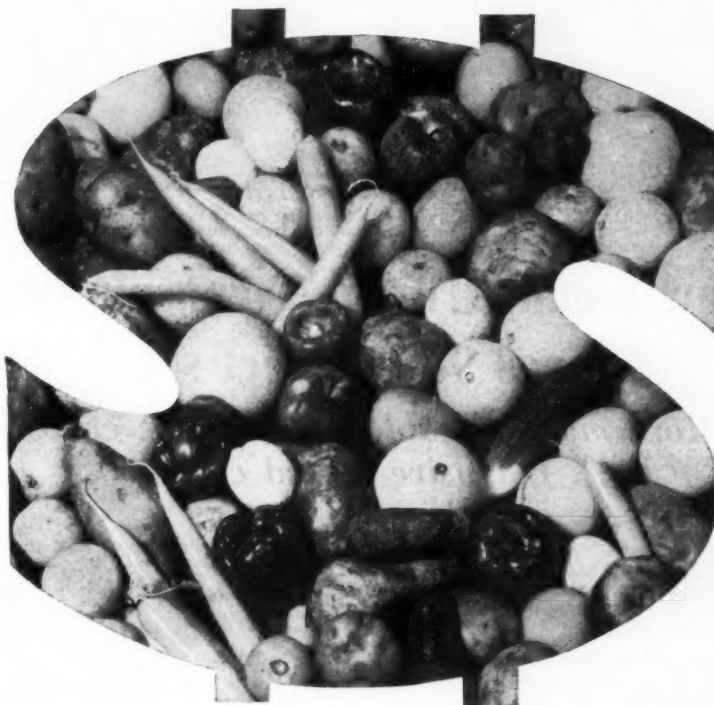
The plastic film is weighted down with soil and bricks to prevent the wind from lifting it.

JANUARY, 1957

SALES UP

with JOHNSON'S WAX

for fruits and vegetables!



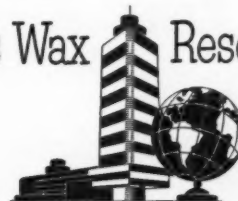
Fresh vegetables given a "beauty treatment" with Johnson's Wax have maximum eye-appeal. The better they look, the better they sell. Once waxed, many vegetables sell in greater volume and command top prices.

That thin, glossy coat of Johnson's Wax preserves peak freshness and quality. It also greatly reduces losses from shrinkage and spoilage. Any way you look at Johnson's Wax, it is a definite selling aid in the vegetable business.

Shoppers demonstrate their preference for waxed vegetables by moving them out of the stores quickly . . . even at premium prices. And that, of course, means better business all along the line . . . for jobbers, shippers, packers and producers.

Inexpensive and easy to apply, Johnson's Wax can boost the sales of many vegetables. For full information, contact your local Johnson distributor or write: **S. C. Johnson & Son, Inc., Agricultural Waxes, Dept. AVG-17, Racine, Wisconsin.**

A product of Johnson's Wax Research



WAX ON ROT
MEMBERS
(1, 85 to 90%).

% Rot after	
7 days' storage*	31 days' storage*
2.4	7.9
1.6	3.0
0.6	1.0
0.0	0.0
28.4	92.0
1.8	11.0

e of storage

VEGETABLE GROWER

Look at **NEW IDEA** before you buy



NEW No. 550 NEW IDEA mounted transplanter has all the features for a 98% set that have made NEW IDEA transplanters the first choice of thousands of farmers.

New mounted **NEW IDEA** transplanter gives 98% perfect set More maneuverable . . . Earlier crops . . . Exclusive added comfort

This brand new mounted NEW IDEA transplanter has many new features for greater efficiency due to mounted design — plus the long-proved features that give 98% perfect sets.

Mounted model is maneuverable. Mounted design permits operator to get close to fences, allows short turns. Two 55-gallon water tanks can be mounted on tractor. Exclusive new seating has hinged leg and foot rest for greater comfort.

NEW IDEA method cuts resetting. With the NEW IDEA setting method, resetting is cut to an average of only 2% — giving farmers a 98% perfect set. The new model has been tested for efficiency in the field on tobacco, vegetable, and seedling setting.

Crops mature earlier. Development of plants set the NEW IDEA way is uniform. Crops usually mature 10 days to two weeks earlier than when set by other methods.

Best idea yet . . . get a New Idea

See the new Mounted NEW IDEA transplanter at your NEW IDEA dealer's. Or write today for full details in the new Transplanter folder.



1. Long, tapered, narrow furrow openers make a narrow trench 5" or 8" deep.



2. Plant is held in trench while water and loose soil spread roots.



3. Pack wheels break down the walls, loose soil is forced upward.



4. Tight seal is formed around plant at surface, removes air, prevents roots from drying out.

NEW IDEA FARM EQUIPMENT COMPANY, DIVISION **AVCO** DISTRIBUTING CORP.

Dept. 2067, Coldwater, Ohio

Please send me FREE literature on the following:

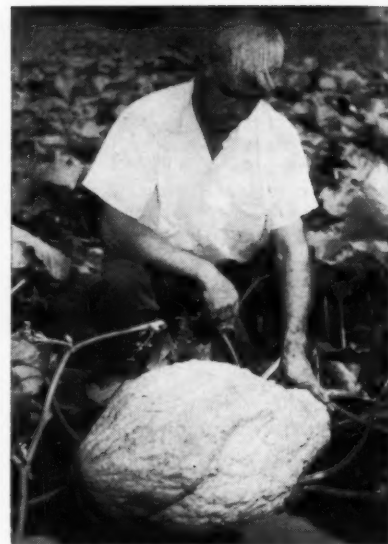
- ☐ Mounted Transplanter
☐ Trailing Transplanter

- ☐ Fertilizer Spreaders
☐ Booklet on Fertilizer Use

Name _____

Street _____

Town _____ State _____



Rogers grows big squash. Here he is inspecting an estimated 50-pounder a month before harvest.

Harold Rogers Grows
His Own Strain of

BLUE HUBBARDS

FOR the past 30 years Harold Rogers, of Essex County, Ward Hill, Mass., has been growing his own Blue Hubbard strain of squash as a dairy sideline. His squash is of excellent quality and hard to bruise as it has a smooth skin free of knobs. Average weight is 50 pounds, with 80 to 90-pounders common, and the largest ever harvested weighed 138 pounds. Although he devotes only a half dozen acres to Blue Hubbards, he has an excellent growing program.

As soon as he can get on the land in the spring, he turns under the winter rye cover crop. Using a homemade pipe row marker, he crosses the field in two directions, marking the hills 12 feet apart. He forks cow manure into each hill, then drops five seeds in each hill as near May 10 as possible, when frost danger is over.

Squash works well into Rogers' farm program. Other than being a profitable crop that can be stored in a dry cellar for excellent fall and winter markets, it provides a chance to empty the manure spreader daily during the haying season. Every day, as soon as the barn is cleaned, the spreader is run both ways between the rows. This practice is continued until the runners become too long.

So far, vine borer controls have not been required but Rogers does apply rotenone with a power duster whenever necessary for striped beetles.—Charles L. Stratton.



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GETABLE GROWER

BUSINESS IS GOOD

(Continued from page 16)

minute dosages of growth-regulating chemicals to produce better yields of tomatoes.

Harold Gatzke, Wisconsin vegetable grower, told how during the last five years head lettuce has taken on a new look as an important vegetable crop for the eastern half of the country. He pointed out that there are many areas in this part of the country which have suitable soil and climate for the production of head lettuce.

Ernest Munter, agricultural engineer with the William Gehring Co., which has 5500 acres of both muck and mineral soil, told how especially designed and built farm equipment has reduced labor cost and increased production efficiency.

He spoke of the two-row, self-propelled, track-mounted potato harvesters; one-way 75-foot boom and track-mounted sprayers; ten-row onion drill and windbreak clipper; 1000-gallon spray tender tanks; water control, drainage, and irrigation equipment; storing and processing equipment; and a plow for deep plowing up to 3 feet in depth.

Speaking on the use of plastics in vegetable production, E. M. Emmert, of the University of Kentucky, said that the use of plastics gives promise of making it possible to produce vegetables out-of-season three ways: 1) by using plastic greenhouses, 2) by using plastic hot beds, cold frames, and row covers, and 3) by using plastic mulches to force vegetables in the field. He said that if black plastic mulch fulfills its promise, it will be one of the best aids to vegetable growers that has ever been developed.

'Quickie' Soil Program

Orville Walker, Michigan county agricultural agent, told how millions of acres of land that were once profitably farmed have been abandoned because of poor soil management. He said that it has been proved that if the organic matter is replaced, this land will again produce crops under good soil management practice. He told of the "quickie organic build-up" which involves using large amounts of commercial fertilizer and soil moisture

along with two crops that can be grown in succession in one year (buckwheat, followed by rye).

In a symposium on new products for vegetable growers, Keith Barrons, of the Dow Chemical Co., spoke on pesticides; Paul Young, of the John Bean Div., told growers about equipment; Robert Blett, of American Box Board Co., spoke on containers; B. C. Manker, Davison Chemical Co., told about new fertilizers; and Joseph Robson, of the Robson Seed Co., spoke on new vegetable varieties for 1957.

M. B. Linn, of the University of Illinois, told growers that considerable progress has been made in developing vegetable varieties resistant to disease. He told about systemics (chemicals which can be absorbed and translocated within the plant) which will help to ward off infectious diseases. It may be possible to apply water-soluble systemics through the irrigation system, he said.

Louis A. Wolfanger, of Michigan State University, told how expanding cities and suburbs are consuming good farmland at an alarming rate. He said that a recent survey shows that over a million acres an-

(Continued on page 34)



**Burpee Big Boy® and
Burpee Big Early**

F₁ HYBRID TOMATOES

**Are Making More Money
for Vegetable Growers**

You know Burpee's Big Boy Hybrid gets more attention than any other tomato, satisfying the most discriminating trade, winning highest prices. They bear enormous crops over a long season, holding quality and size.

Burpee's Big Early Hybrid captures the early market with giant smooth fruits that ripen bright scarlet right to the stem, maturing in 62 days. Heavy producer, bears over long season.

SEED PRICES REDUCED 20%!

We increased our seed acreage to meet the tremendous demand, making substantial savings to pass on to you. See page 2 in Burpee's 1957 Blue List of wholesale prices—if you don't have one, write today.

If you do not
have Burpee's
1957 Blue List,
wholesale prices for
commercial growers,
write for it TODAY!

W. Atlee Burpee Co.

WHOLESALE SEED GROWERS

Philadelphia 32, Pa. • Clinton, Iowa • Riverside, Calif.

More F₁ Burpee Hybrids Be sure to also plant
new Burpee Hybrid
Cantaloupe, Burpee Hybrid Cucumber, Burpee Hybrid Zucchini,
Burpee Hybrid Eggplant, Burpee Hybrid Onions.

JANUARY, 1957

31

**GREATER YIELDS . . .
GREATER PROFITS
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SOIL TEST OUTFITS**

**ELIMINATE TARDY TEST REPORTS
NO SPECIAL TRAINING REQUIRED**

**COMPLETE
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Everything necessary to make tests for 15 plant growth factors; plus tissue tests for Nitrates, Phosphorus and Potassium.



\$49.50 F.O.B. NORWALK

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Everything necessary to make 100 to 300 tests for the following plant growth factors: Nitrates, Phosphorus, Potassium, Calcium, Ammonium, Acidity; plus tissue tests for Potassium.



Nitrates, Phosphorus and Potassium.
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OUTFIT**

100 tests for the following five growth factors: Nitrates, Phosphorus, Potassium, Calcium, Ammonium, Acidity; plus tissue tests for Nitrates, Phosphorus and Potassium.



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Simplex Soil Test Outfits are not merely soil testers, they are combination Soil and Tissue Test Outfits based on scientific methods devised at Michigan State College by Dr. Charles H. Spurway.

Write for free Simplex literature before purchasing any soil testing equipment. You will be glad you did!

**The EDWARDS
LABORATORY**
1317 SIMPSON AVENUE • NORWALK, OHIO

**RHUBARB ROOTS
VALENTINE & MACDONALD**

Hardy Northern Grown Plants
Write: E. D. Troup
Jordan Station, Ontario, Canada
EARLY SPRING DELIVERY
Wholesale Only

**MORE AND
BETTER POTATOES**

Activo is Nature's own way of energizing soil for best crop yields with billions of friendly organisms, hormones, vitamins, minerals, BIOTICS. (Users report "Better than fertilizer!") Just apply to seed. More bigger, better potatoes or your money back. Trial pkg. for 9-18 bu., \$2.95 p.p.d. Dealers or THE ACTIVO COMPANY, Bridgeton 43, Ind.

SEEDLESS MELONS

(Continued from page 22)

things occur often enough so that the so-called seedless melons are not entirely seedless. In our trials at Athens we have cut seedless melons containing from 0 to 93 hard black seed. The average has varied from year to year, but has ranged from 10 to 15 seeds. There seems to be more hard seed in the earlier melons and less in the midseason and late-maturing fruits from the same vines.

Most of the hard seed from the seedless melons do not contain a normal embryo and therefore will not germinate. The few that have a viable embryo will not breed true. Therefore, as with hybrid corn, it is necessary to remake the cross each year to produce the hybrid, triploid seed for growing the seedless variety. The high cost of the seed is due to both the difficulty of maintaining the tetraploid parent line and to the necessity for hand cross-pollination of each flower.

The Japanese breeders developed a number of different tetraploids and tried many combinations of crosses before they found several which gave good quality, productive, seedless varieties. Two or three have been distributed through American seed companies. The one which we have found most satisfactory is a combination of the tetraploid from the Japanese variety Yamato crossed with the diploid (normal) variety Asahi. It is almost round and is marked with dark green stripes on a light green background. This is the melon we refer to as the Japanese Seedless.

Good Size, Yields

The Japanese Seedless grown at our experiment station have averaged better than 10 pounds in weight, excluding the very late small melons which ripen after the main crop on the vines. The largest melon weighed 25.3 pounds. Average weights vary from season to season due to moisture supply and fertilization, but no more so than for our standard varieties.

Yields have been good with us, comparing favorably in poundage with such varieties as Charleston Gray and Congo. Often four or five fully mature melons of 10 pounds or better are found on a single vine. We have found relatively little hollow heart or white heart in the seedless varieties.

The rinds are hard and thin when fully ripe. We have not conducted shipping tests, but believe it would ship well if handled with reasonable care. Flesh is firm, of good texture, and dark red when fully ripe.

**PALOMAR CUCUMBER
DISEASE RESISTANT**

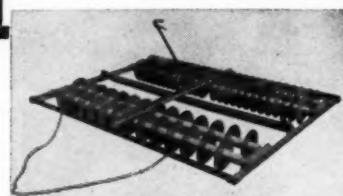


Introduced first time on a national basis in 1957. Resistant to downy mildew. Extra long, slender, dark green fancy fruits. Few crooks and culls. High yielding, better than F1 hybrids under some conditions.

New catalog lists 87 selected strains of leading vegetables. Satisfied customers in 48 states. FREE CATALOG now ready.

OTIS S. TWILLEY Co.
Certified Seed Growers
Salisbury, Maryland

**SIMONS
Pulverizing and Smoothing
HARROW**



For a really fine, smooth Seed Bed
Here's the Harrow that can increase crop yield so much that it can pay for itself in one season.

It's a harrow, roller and leveler combined that will give you a really fine, smooth seed bed. And the Simons Harrow is built for high speed and hard use.

It's adjustable to exactly suit your soil. Available in 4-5-6-7-8-9-10-11-12 ft. widths.

We have open Areas for Dealers

**Write for Prices and Details
S. S. SIMONS**

Machine Works

6223 STATE RD.
CORNWELLS HEIGHTS, PA.

AMERICAN VEGETABLE GROWER

CUMBER INSTANT



a national basis
downy mildew.
ark green fancy
alls. High yield-
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ATALOG now

LEY Co.
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HTS, PA.

ETABLE GROWER

The vines of the Japanese Seedless are vigorous, but perhaps not as long as some of our large-fruited varieties. Although we have not tested



Cross section of Japanese Seedless watermelon showing single hard seed. White ovules do not harden, are not noticeable when eating melon.

them specifically for disease resistance, our observations indicate some resistance to both fusarium wilt and leaf diseases.

In order for the fruit to develop properly the flowers must be cross-pollinated with a regular variety which blooms about the same time. Cross-pollination is necessary for the hormones found in the pollen, which stimulate normal fruit development. We have used both Dixie Queen and Congo as pollinators, and each has been satisfactory. Probably any variety blooming about the same time would do. One hill in five or one row in five is planted to the pollinator. The Japanese Seedless needs relatively fertile soil and adequate moisture for best development and yield.

Greatest cultural difficulty has been in obtaining good stands. The seed of this variety has a hard seed coat which renders germination difficult. This is overcome by clipping the "corner" of each seed with a pair of scissors or by buffing it on a stone. The seed we have bought lately has been buffed by the company selling it.

Soil temperature is also a critical factor. The seed should not be planted until the soil temperature reaches 80° F. Our best results have been obtained by planting in individual pots in the greenhouse and transplanting to the field when conditions are favorable, and preferably soon after the first true leaves develop. Aside from these factors, culture is the same as for other watermelons. THE END.

DON'T BLAME THE CUKES

IF your muskmelons tasted like cucumbers last year, don't blame the flavor on cucumbers which were planted near-by, cautions E. C. Wittmeyer, Ohio State University extension specialist in vegetable gardening. Cucumbers do not cross-pollinate readily with muskmelons, watermelons, pumpkins, or squash. Furthermore, if such cross-pollination could occur, the results would not show up until the seed from last year's crop is planted in the spring.

JANUARY, 1957

SEEDLESS WATERMELON

The New Flavor in Melons With True Hybrid Vigor & Yield

TRI-X

Finest Scientifically Tested Hybrids

AMERICAN SEEDLESS WATERMELON SEED CORP.

GOSHEN, INDIANA

GROW THE BEST!

HIGH QUALITY SEED STOCK
grown from foundation or approved seed

FLORIDA OR GREENHOUSE TESTED!
Thoroughly field inspected Properly stored Shipments inspected for grade by Federal and State Inspectors

GROW TOP QUALITY MINNESOTA Certified SEED POTATOES
FOR HIGHEST YIELDS!

VIGOROUS and HEALTHY

Grown under rigid requirements and inspected by well trained, qualified inspectors of the State Department of Agriculture.

MINNESOTA CERTIFIED SEED POTATOES ARE SOLD ONLY BY THE GROWERS.
Select your variety—we supply the grower. List on request.

See Your Local Dealer!

Look for this Official Blue Tag of Certification on every bag.

OFFICIAL TAG
The Minnesota Department of Agriculture certifies all seed potatoes for quality and health.

STATE OF MINNESOTA DEPT. OF AGRICULTURE
Seed Potato Certification, U. of M. St. Paul Campus, Dept. P, St. Paul, Minn.

CORRECTION

Due to a typographical error in our full page advertisement in the November issue of AMERICAN VEGETABLE GROWER on

AMILSCO POLYFLEX II

the product was referred to in the final paragraph as "Poly ¼ ex II." This has confused some readers of this publication who thought that "Poly ¼ ex II" was a product other than the AMILSCO Polyflex II, which was the subject of the advertisement.

To correct this impression we renew our invitation to growers as it should have appeared in the November advertisement to send for literature on Polyflex II Greenhouse construction along with samples and prices.

X. S. SMITH, INC.
RED BANK • NEW JERSEY

This Versatile GARDENER'S GRINDER



- Speeds Composting
- Grinds Leaves for Compost or Mulch
- Mixes Compost or Fertilizer with Soil
- Makes Potting Soil or Top Dressing

Cut months off composting time by shredding organic matter properly as well as do dozens of other grinding jobs around the garden with this portable machine. Has interchangeable rollers and grinding screen so you can reduce practically anything to just the desired texture. Rejects only unwanted trash.

\$133.50 less engine and belt guard or \$189.50 complete with 2½ h.p. Briggs and Stratton recoil starter engine (available with electric motor), f.e.b. Wichita. Larger models available. Terms usually arranged.

Write for literature and dealers name

W-W GRINDER CORP.

Dept. VG

WICHITA, KANSAS

90 TOMATO VARIETIES

We list in our 1957 catalog ninety tomato varieties. The most unusual and strangest strains in the world.

Also many other new vegetable introductions gathered from all over the world, to be found only in GLECKLERS 1957 catalog. Request your copy. Only a small reserve supply available.

GLECKLERS SEEDMEN
METAMORA, OHIO

Growers Breeders Importers

BUSINESS IS GOOD

(Continued from page 31)

nually have been lost to cities and suburbs during the last 15 years. He suggests that every rural and suburban community should take stock of its land and resources, determine the best uses and relationships, and develop a blueprint to guide future developments.

In the potato sessions, E. J. Wheeler, Michigan State University potato production expert, advised pallet handling in the field for fresh-dug potatoes. Less injury to tubers en route to potato storage will result, he said.

John Schoenemann, of the University of Wisconsin, told how two-year rotations for potatoes have been found practical through the use of lupines as the off year crop. Lupines improve the soil, increasing the total potato yields and giving farmers the opportunity to whip perennial weed pests.

Schoenemann said Wisconsin farmers are overcoming the quack grass problem with Dow Chemical Co.'s new weed killing chemical, Dalapon. R. H. Treadway of the USDA in Philadelphia told about new and extended uses for potatoes. He said that chips remain the largest single processing outlet for potatoes by far. He spoke of dehydrated, pre-peeled, and canned potatoes. He told of potato flakes which represent a new type of dehydrated, pre-cooked product that offers considerable promise of achieving commercial adoption.

Ora Smith, director of research for the National Potato Chip Institute, told how the kind and condition of the potatoes affects the quality of the chips. He gave recommendations on grade, variety, specific gravity, maturity, and storage conditions.

A report by Don Isleib, of Michigan State, told how irradiation treatments have shown promise as sprout inhibitors and could permit not only extended storage, but storage at more favorable temperature for special purposes. THE END.

WATER FOR POTATOES

AN inch of rain per week or a total of 25 gallons of water—that is what one potato plant requires for growth and maturity. This amount of rain, or its equivalent in irrigation, is usually sufficient provided it occurs when needed by the plants and at a rate favorable for absorption by the soil.—Elmer C. Pifer, Penn. State.

Holmes Seeds

Holmes Early Giant Hybrid Tomato

An F-1 hybrid bred for extra earliness and high yield. Large uniform fruit. Fine color and quality. For size and earliness it will be hard to beat.

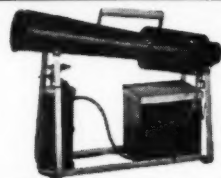
1/16 oz. \$2.25; ¼ oz. \$4.00; ½ oz. \$7.50; 1 oz. \$13.50; 2 oz. \$25.00; ¼ lb. \$85.00

Golden Acre Special Cabbage

Extra early. Heads are small averaging 2½ pounds and of fine quality. This strain heads up solid right from the start. oz. \$.75; ¼ lb. \$2.20; 1 lb. \$6.50; 5 lbs. or more \$6.25 per pound.

Write for our Market Growers and Florist Wholesale Catalog. (Ready December 1st)

Holmes Seed Company
1017 Ninth St. S. W.
CANTON, OHIO

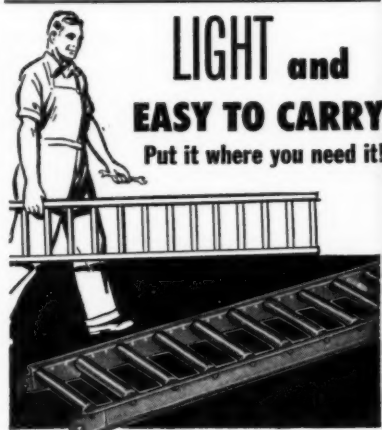


"ZON" SCARECROW

Positive protection from blackbirds and other wildlife depredation. Operates on carbon, acetylene tank or butane tank for many days without refueling. No pilot light, simple, safe. Immediate delivery. Retail price \$58. Dealership available. For information and orders write:

B. M. LAWRENCE & CO.

244 California Street San Francisco 11, Calif.



LIGHT and EASY TO CARRY

Put it where you need it!

STANDARD LITEWATE sectional roller conveyors are ideal for "spot" loading and unloading jobs — can be quickly, easily moved wherever desired. They handle all types of commodities up to 80 lbs. and operate at grades as little as ¼ in. to ¾ in. per ft. Available in 10-ft. and 5-ft. straight sections and 90° and 45° curves; with interchangeable spacing of rollers on 1½ in. through 12 in. centers. Write Dept. S-1, for Bulletin 63-B.

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General Offices: North St. Paul 9, Minn.

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GRAVITY & POWER
CONVEYORS

AMERICAN VEGETABLE GROWER

Seeds

Hybrid Tomato

For extra earliness
and uniform fruit.
Early. For size and
hard to beat.
\$4.00; ¼ oz. \$7.50;
\$10.00; ¼ lb. \$85.00

Special Cabbage

Small averaging
fine quality. This
right from the
\$2.20; 1 lb. \$6.50;
per pound.

Growers and Florist
every December 1st!

Seed Company

1017 Ninth St. S. W.
CANTON, OHIO



RECROW

birds and other wildlife
acetylene tank or butane
refueling. No pilot light.
very. Retail price \$30.
information and orders write:

NCE & CO.

San Francisco 11, Calif.

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TO CARRY

where you need it!



sectional roller con-
"spot" loading and
be quickly, easily
ed. They handle all
up to 80 lbs. and
little as ¼ in. to ¾
in 10-ft. and 5-ft.
90° and 45° curves;
spacing of rollers
2 in. centers. Write
in 63-B.

VEYOR COMPANY

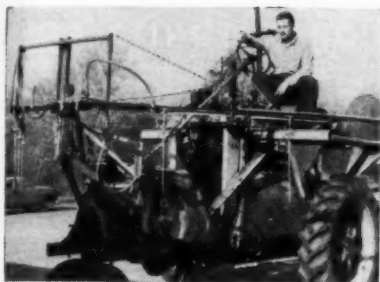
101 St. Paul 9, Minn.

in Principal Cities

Standard

GRAVITY & POWER
CONVEYORS

VEGETABLE GROWER



From seat of his home-made corn sprayer Henry Stockhoff, South Plainfield, N.J., can adjust boom from 7 feet to 10 inches in 15 seconds.

HE LOWERS THE BOOM!

By KENNETH JACK

A RIG that will spray sweet corn in any stage of growth—and cover at least 6 acres with one spray load—has been built by Henry Stockhoff, South Plainfield, N.J. truck farmer.

Operating a roadside stand, Stockhoff has corn coming in in regular succession throughout the season. Spraying corn of varying heights poses no problem for him, though. By turning a crank he can raise or lower his 6-row boom from 10 inches to 7 feet in 15 seconds without leaving his seat.

Stockhoff used materials he had on the farm to make his sprayer. Old underground irrigation pipe was welded together for the frame. Front post, motor, and wheels were taken from an old tractor.

"The old oil burner storage tank we used holds 275 gallons," he said, "and we used a milk can lid on the opening to make it splash-proof."

Corn is planted in 3-foot rows. Twelve nozzles—two per row—enable Stockhoff to cover six rows at a time. There's also an overhead nozzle for each row, if needed. The spray solution is pumped from the tank through reinforced plastic housing.

Cable to Boom

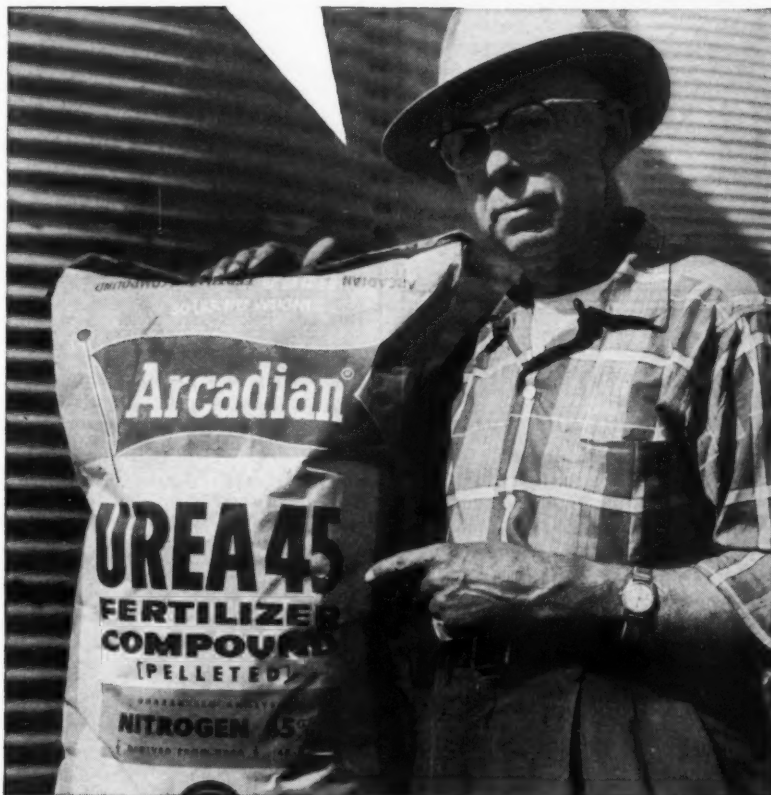
The boom is connected to the front of the sprayer by a series of angle irons, nuts, and bolts. The entire boom assembly is lowered or raised by cable that runs to a spool near the steering column.

The sprayer has two transmissions—one down by the motor, another at the seat. When the tractor motor runs in high gear, the top transmission, which is belt-driven from the lower transmission, can be operated in low gear. There is a 6-foot clearance between the rear wheels and the spray rig.

THE END

JANUARY, 1957

EASY WAY TO FEED CROPS NITROGEN



You get 36 pounds of actual nitrogen in every 80-pound bag of concentrated ARCADIAN® UREA 45. It's all high-quality Urea nitrogen, leach-resistant, long-lasting, and quick-acting. UREA 45 is a labor-saver and a money-maker, any way you use it. Plow it down, side-dress it, or apply it in irrigation water. It goes on fast and easy every way! UREA 45 feeds your crops right through to harvest, and leaves no harmful residue in the soil. Get ARCADIAN UREA 45 now to make your vegetables grow profits!

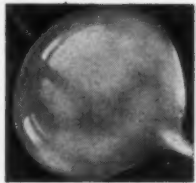
NITROGEN DIVISION Allied Chemical & Dye Corporation
40 Rector Street, New York 6, N. Y.



Grow with Arcadian®

ARCADIAN UREA 45 the concentrated, free-flowing nitrogen

FREE!



**1 oz.
Burpee
White
Radish
SEEDS**

Try this long-keeping, extra delicious, glistening pure white radish. They add sparkle to any roadside stand or market display. See how fast they sell!

Write today for 1 oz. seeds FREE
We'll also send Burpee's Vegetable Seed
Wholesale Prices for Market Growers

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PHILADELPHIA 32, PA.
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DWARF APPLE TREES for Planting next Spring

Hardy, northern grown 1-year old trees. Grafted on Malling Stocks No. II, IV, VII and IX. Guaranteed free from insect pests or plant disease. Backed by more than 100 years of Leuthardt family experience in Dwarf Fruit Trees. Send for prices. State your needs, soil conditions and varieties desired, to eliminate any possible risk in choosing proper understock.

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Certified Vegetable Plants

Certified Tomato, Pepper, Onion and Cabbage Plants. All leading varieties. We ship only in large quantities.

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Tifton, Georgia

Free Book ON IRRIGATION

...tells you what to look for before buying any irrigation system. Why be confused? This valuable new guide gives you many money-saving facts.

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150 Hooper Street • San Francisco, California
Please send your free booklet ☒

NAME.....
ADDRESS.....
CITY.....STATE.....
CROPS.....ACRES.....



Mail Today!

STATE NEWS

(Continued from page 24)

were hit by a torrential rain October 9, 1955, which flooded an estimated 1,500 acres, destroying \$1.5 million worth of onions. This followed a maggot invasion in 1953 and mildew damage in 1954, each of which wiped out the crop for the year. In 1956 growers beat misfortune to the punch and their million dollar crop was under cover before the heavy rains fell. The 1956 crop has been estimated at about 125% of normal.—Harold and Lillie Larson

Rain-making

FLORIDA—A solution to the perplexing problem of rain-making is being sought. Stephen Diamond of Palmetto, representing the Florida Fruit and Vegetable Association, recently told the Florida Water Resources Study Commission that the water needs of vegetable growers, citrus growers, and cattlemen are often very different. As a result disputes have arisen about weather modification. The proposed state board on water resources should be empowered, Diamond stated, to arbitrate such disputes.

A tentative recommendation of the water commission would require a permit for all weather modification attempts and would establish conditions under which rain makers can operate.—Henry Chas. Suter

Herefords Prefer Potatoes

MAINE—Potato pulp and hay proved tops in a feeding test conducted by the University of Maine to determine the most economical type of feed for beef cattle. Results of the test showed that Herefords could be brought to market weight on the potato pulp diet at an average cost of 18.8 cents per pound.

Other results showed the only choice grade meat produced in the experiment came on the ration of potato pulp. Cattle raised on corn or corn silage cost about 30 cents per pound to raise.

Gardner Steps Down

NORTH CAROLINA

—Prof. M. E. Gardner, veteran member of the North Carolina State College faculty, relinquished his duties as head of the horticulture department, at his own request, on October 1. He will devote his time to teaching and research at the college. Dr. Fred C. Cochran has succeeded him.

Under Prof. Gardner's leadership the department's staff has increased from 11 to 43 persons, and from one administrative unit to five sections—fruit crops, vegetable crops, floriculture and ornamental horticulture, fruit and vegetable processing, and extension sections.

A notable contribution of Prof. Gardner in the vegetable field was his work in connection with the development and introduction of the Sequoia variety of Irish potato that resists disease and insect pests. He also has worked closely with potato growers in the organization and operation of the North Carolina Potato Growers Association.

Dr. Cochran, a member of the college faculty for the past eight years, is internationally known for his work in vegetable crops and plant breeding.—Melvin H. Kolbe, Raleigh.



Gardner



Cochran

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. Copy must be in first of month preceding date of issue. ADDRESS: AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

BOOKS

THE HOW-TO BOOK ON STRAWBERRIES. Common sense treatment of the must and must-not in strawberry culture. Fully illustrated. \$1.50. AMERICAN VEGETABLE GROWER, Box 107, Willoughby, Ohio.

BUSINESS OPPORTUNITIES

\$100.00 WEEKLY RAISING EARTHWORMS! Free plan reveals how! OAKHAVEN-25, Cedar Hill, Texas.

FOR SALE—EQUIPMENT & SUPPLIES

TWO 1955 MODEL ALLIS CHALMERS "G's" with 4-row Ariens tillage, good as new. Used approximately 50 hours. Will sell at \$1,750.00 each. BART BERNACCHI, Fox Street, La Porte, Indiana.

FOR SALE—COMPLETE IRRIGATION SYSTEM, used one season, 1950' 8" Armo Steel Pipe for underground main. 1470' 4" x 30' McDowell coupled aluminum pipe. Sprinklers, risers, hydrants and necessary fittings. Gorham-Rupp Jeep Pump @ 500 GPM, trailer mounted. Ideal outfit for large grower. Write for price and additional information. Priced to sell. WILLIAM A. BERNARD, Belpre, Ohio.

ALLIS-CHALMERS "G" WITH THREE-ROW Ariens' Tillage. Good as new. Used one season. Reasonable. WALLACE DEEKE, Roselle, Illinois.

HELP WANTED

A NATIONAL SEED COMPANY NEEDS EXCLUSIVE sales representatives to cover various sales areas. All territories protected. An interesting job which can be handled in your spare time. Applicants must be respected in their community and an asset to our company. Please reply AMERICAN VEGETABLE GROWER, Box 108, Willoughby, Ohio.

MISCELLANEOUS

SAWDUST AS A SOIL IMPROVER. ONLY three tons per acre applied annually with our treatment. Sawdust is mixed and spread. No waiting. For free illustrated folder and special trial offer, write FOREIGN PRODUCTS CORPORATION, 283 McKinley Avenue, East Orange, N.J.

FOR SALE—CASTOR OR MOLE BEANS and sage. MRS. JOE WELCHLEN, LeRoy, Illinois.

PLANTS AND SEEDS

AMAZING NEW HYBRID EVERBEARING strawberry "Ozark Beauty". Large fine flavor. Very productive. Originator WINN'S BERRY FARM, Westfork, Arkansas.

HORSERADISH SPROUTS, HEALTHY, sturdy, virus free strawberry plants. Write for quotations. CLARK SEED CO., Cheswold, Delaware.

VINE SEEDS, HYBRID SWEET CORN, seeds fully treated for your protection. Write for quotations. CLARK SEED COMPANY, Cheswold, Delaware.

STRAWBERRY PLANTS—ARKANSAS Certified, virus free, disease free, Green Tag Blake more plants, \$5.00 per 1,000. Twenty other leading varieties \$6.00 per 1,000. UNVERRICHT & SCOTT, Augusta, Arkansas.

RHUBARB PLANTS FOR SALE—WRITE LENORA WELCHLEN, LeRoy, Illinois.

Are You a Seed Salesman?

Add to your income by selling AMERICAN VEGETABLE GROWER. Write today for our liberal, nursery agents' plan. Address:

**EDWARD MEISTER, Circulation Manager
AMERICAN VEGETABLE GROWER
WILLOUGHBY, OHIO**

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ly illustrated. \$1.50.
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good as new. Used
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RRIGATION SYS-
Armo Steel Pipe
4" x 30' McDowell
inklers, risers, hy-
Gorham-Rupp Jeep
mounted. Ideal outfit
price and additional
WILLIAM A. BER-

WITH THREE-ROW
w. Used one season.
KE, Roselle, Illinois.

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cover various sales
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Large fine flavor.
WINN'S BERRY

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GETABLE GROWER

DON'T TAKE CHANCES

with toxic insecticides and fumi-
gants such as Systox, Parathion,
TEPP, Aldrin, Chlordane, etc.



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USDA accepted Willson Agri-Tox is the
universal respirator for handling and
applying toxic farm chemicals. Write for
bulletin, prices and name of your nearest
distributor.

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RAY-O-VAC COMPANY
Leaders in Research and Development of Safety Equipment Since 1870
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Now ... for 1957
Cushman 780 TRUCKSTER
... PACKED with
ADDED POWER!



America's lowest cost vehicle for light
hauling now offers a heavier, more
powerful Cushman Husky engine for
peak payload performance. Haul up to
500 pounds for just ¼ cent per mile
total operating cost.

Fibre glass cab available for weather
protection, also electric starter as op-
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- Sold and serviced
nationally;
replacement parts
available immediately
- Ask your Cushman dealer for
FREE demonstration or write
for illustrated booklet.
• Dealer inquiries invited.

Write for new FREE booklet today
CUSHMAN MOTOR WORKS, INC.
967 No. 21st, Lincoln, Nebraska

JANUARY, 1957

SEED

(Continued from page 9)

research and experiment. Not all the
answers have been found, but al-
ready this research has produced
results of far-reaching importance
for vegetable growers. The first of
these is to be seen in the new Asgrow
method of packaging seed, which
they call Vigorpak.

Vigorpak Insures Freshness

Under the Vigorpak method, the
seed is tested first to determine its
vigor; it is then given a special con-
ditioning, after which it is packed

HYBRID ONIONS

Growers interested in hybrid onions may get
a copy of Asgrow Progress Report No. 102,
"Hybrid Onions," by writing Associated Seed
Growers, Inc., 205 Church St., New Haven 2,
Conn. Aimed at helping onion growers select
those hybrids of greatest use for their particular
needs in their particular areas, the illustrated
report features detailed descriptions of hybrid
onion varieties as well as interesting information
on the production of hybrid onion seed.

in hermetically sealed cans. Simple
as this sounds, it is one of the revo-
lutionary techniques in the history
of the seed business. It means that
when the grower opens a can of
seeds he will find them with all the
freshness and vigor that they had
when they were put in the can. This
will be so for months, and even years
longer, than would be possible under
ordinary conditions of storage pre-
vailing in the average grower's tool
shed.

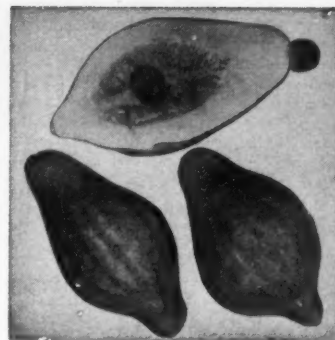
Tailor-made Varieties

On the threshold of their second
century, the folks at Asgrow look
forward to exciting new develop-
ments. Foreseeable on the future
horizon are such things as tailor-
made varieties created by mechan-
ical transfer of groups of genes, and
the development of entirely new
kinds of vegetables. Genetic possi-
bilities are a topper (cross be-
tween a tomato and a pepper) and
a pomato (cross between a potato
and a tomato).

Other developments may well in-
clude further improvements in meth-
ods for conditioning seeds for quick
and uniform emergence after plant-
ing. Selling seed by the count of
pure, live seeds instead of by the
pound or bushel is also foreseeable.
Backing this up may come electronic
devices capable of detecting dead or
even weak seeds and removing them
from the seed lots.

All these things—past, present,
and future—are geared at one thing:
giving vegetable growers the best
possible "embryos" in every lot of
seed.

THE END.



SQUASH, SUGAR HUBBARD

This squash, of our own origin, has
the fine grain and sweetness of Sweet
Meat plus the large size and shape of
the Hubbard... Wonderful keeping
qualities... excellent for both home
and farm gardeners. Postpaid: Pkt. 15c;
oz. 50c; ¼ lb. \$1.40; lb. \$3.50.

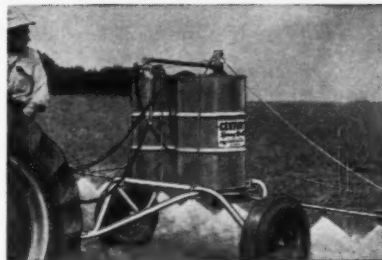
SWEET MEAT SQUASH

Thick, fine-textured meat... excep-
tionally sweet. Flavor and sweetness
increase with age for at least six
months after harvest... will keep from
season to season. Vigorous grower,
unusually free from disease. Postpaid:
Pkt. 15c; ½ oz. 30c; oz. 50c; ¼ lb.
\$1.25; lb. \$3.00.

Send for our FREE Catalog

GILL BROS. SEED CO.
Dept. VG, Mantavilla Station, Portland 16, Oregon

Low Cost, All Purpose SPRAYERS



Trailer-mounted for about the same price as
tractor-mounted! For economical low-gallonage
spraying. Aluminum or galvanized tanks are
available, or use oil drum if you like.



Adjustable
Wheel Spacing Trailer



For complete information and
Century dealer nearest you, write Dept. 117-A

CENTURY
ENGINEERING CORP. Cedar Rapids, Iowa

A Scientific Teaser

IN a recent address before the American Institute of Biological Sciences, Dr. Byron T. Shaw, administrator of the Agricultural Research Service, USDA, raised this question, "Can we extend the number of plant species that fix their own nitrogen?"

Scientists have speculated on answers to this question for more than 30 years, yet the final answer still eludes the trained minds. However, sufficient scientific evidence has been accumulated to tease the researcher's mind into new studies.

As Dr. Shaw points out, we do not yet know just how nitrogen is fixed biologically, as is done in the nodulated roots of legumes. Recent studies, however, show that one of the less common elements, molybdenum, is essential to this specialized plant process.

Other recent studies show that by modifying the bacteria in the nodules of the host plant, the symbiotic phase of nitrogen fixation can be altered in its effectiveness. This is illustrated by a recent Canadian experiment in which certain parasitic strains of *Rhizobium* bacteria were able to produce combined nitro-

gen when exposed to X-rays. Ordinarily these strains of bacteria do not fix nitrogen.

Studies of this kind help to shed light on the breakdown of organic matter in soils and on the manner in which the nitrogen balance in soils may be maintained or changed.

All the research to date in the field of soil nitrogen and biological processes indicates the possibility of grasses or vegetable crops becoming nodulated. As yet, such a reality remains in the crystal ball.

We can see what tremendous effects such an achievement would have upon fertilizer programs, soil organic matter, and crop rotations. What do you think of the possibility of treating your sweet corn, or tomato, or lettuce seed with nodulating bacteria? It could work out as a saving in fertilizer application, it would make it easier to maintain soil organic matter at a given level, or it could shorten the time between crops in a given rotation.

We like to be teased by some of these crystal-ball ideas because we know that any good change in any phase of our production of a crop begins in a crystal ball.

If You've a Roadside Market, This Is for You!

MORE automobiles, more families on wheels, more traveling. That is the story told in figures reported by the Automobile Manufacturers Association in their 1956 edition of "Automobile Facts and Figures."

In 1948, their report shows, 23 million families or 54% of all households in the United States owned automobiles. By 1955 these figures had risen to 36 million households, or 73%—an increase of 13 million families!

What do these figures mean to you?

If you operate a roadside stand or contemplate establishing a roadside market they will have special significance. With more and more families taking to the highways for a day's outing, a weekly drive for pleasure and pastime, or for the specific purpose of buying fresh, crisp produce, the possibilities of capitalizing on this potential market are tremendous. Roadside selling is big business, particularly in rural sections adjacent to metropolitan areas.

One of the basic principles to success of a roadside market is consumer confidence. Massachusetts growers, realizing this, have initiated an "Approved Farm Stand" program. Only those growers whose

stands meet the standards of the "Code of Ethics" which has been established have the right to display the "Approved Farm Stand" sign.

Here are some of the requirements of the Massachusetts code: Growers must maintain the stand, stand surroundings, and signs in a neat, attractive appearance; they must feature local items, with at least 60% of items sold to be produced by the stand operator; they must display only products in good, firm, usable condition; use only clean containers; use a grade mark on all products

QUOTE-OF-THE-MONTH

"Who soweth good seed shall surely reap."

—Julia C. R. Dorr

whenever official grades are available for the product.

A code requirement that will insure repeat customers is that of packing all containers with at least the weight or volume common for the package, and having the face of each package represent the contents of the package. Inclusion of the name and address of the roadside stand operator on or in each container is a particularly worth-while requirement.

The code points out further that a good reputation for the Approved Farm Stand sign can be developed only by treating all customers with courtesy and consideration.

To make sure the operator is maintaining code standards, several inspections of the roadside stands are made during the season.

We think Massachusetts points the way to sound management of roadside markets. The time of year for heavy travel may seem a long way off but the time to start a similar movement in your area or state is at hand.

Coming Next Month

Fertilizer Issue

- What's New in Fertilizing Florida Vegetables?
- Liquid Nitrogen Boosts Indiana Tomato Yields
- How to Use Starter Solutions
- Fertilizing Greenhouse Tomatoes
- Southern Growers Like Anhydrous Ammonia
- Build a Plastic Greenhouse
- Gibberellic Acid—a New Growth Stimulant
- The Vegetable Areas of America—California's Central Valley

AMERICAN VEGETABLE GROWER

VEGETABLE CONVENTION



"I wonder if they really are that pretty."

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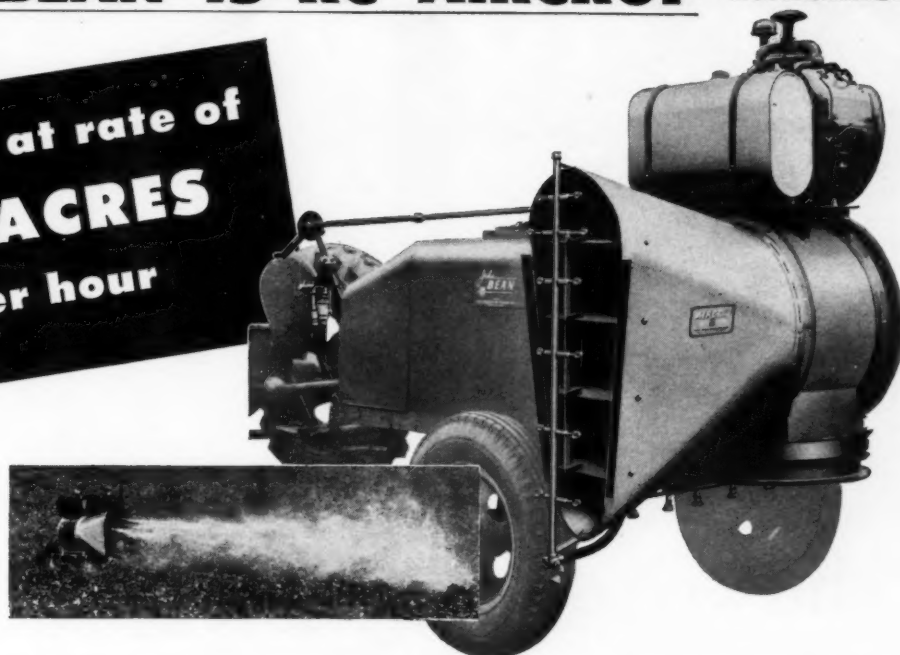
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VEGETABLE GROWER

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the **John BEAN 15-RC AIRCROP** attachment

sprays at rate of
24 ACRES
per hour



With the John Bean 15-RC Aircrop installed on your high pressure sprayer, you'll spray 60' swaths and do a thorough job at the rate of 24 acres an hour at a 4 mph tractor speed. Just estimate your savings in time and labor over boom-type spraying! Many growers can save the cost of the Aircrop in a single season.

Straight-through delivery of a large air volume at medium velocity is one secret of the Aircrop's phenomenal success. The 15-RC's 29" axial flow fan delivers 31,000 cubic feet per minute, but the

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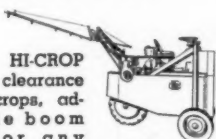
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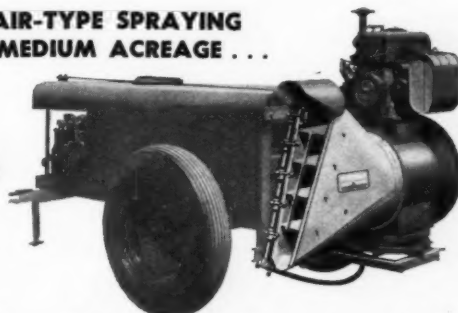
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**8-RC
AIRCROP**



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this means fewer problems for you

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